

Technology Review

Edited at the Massachusetts Institute of Technology

February, 1964



Computer-Aided Teaching, Page 9

technology review

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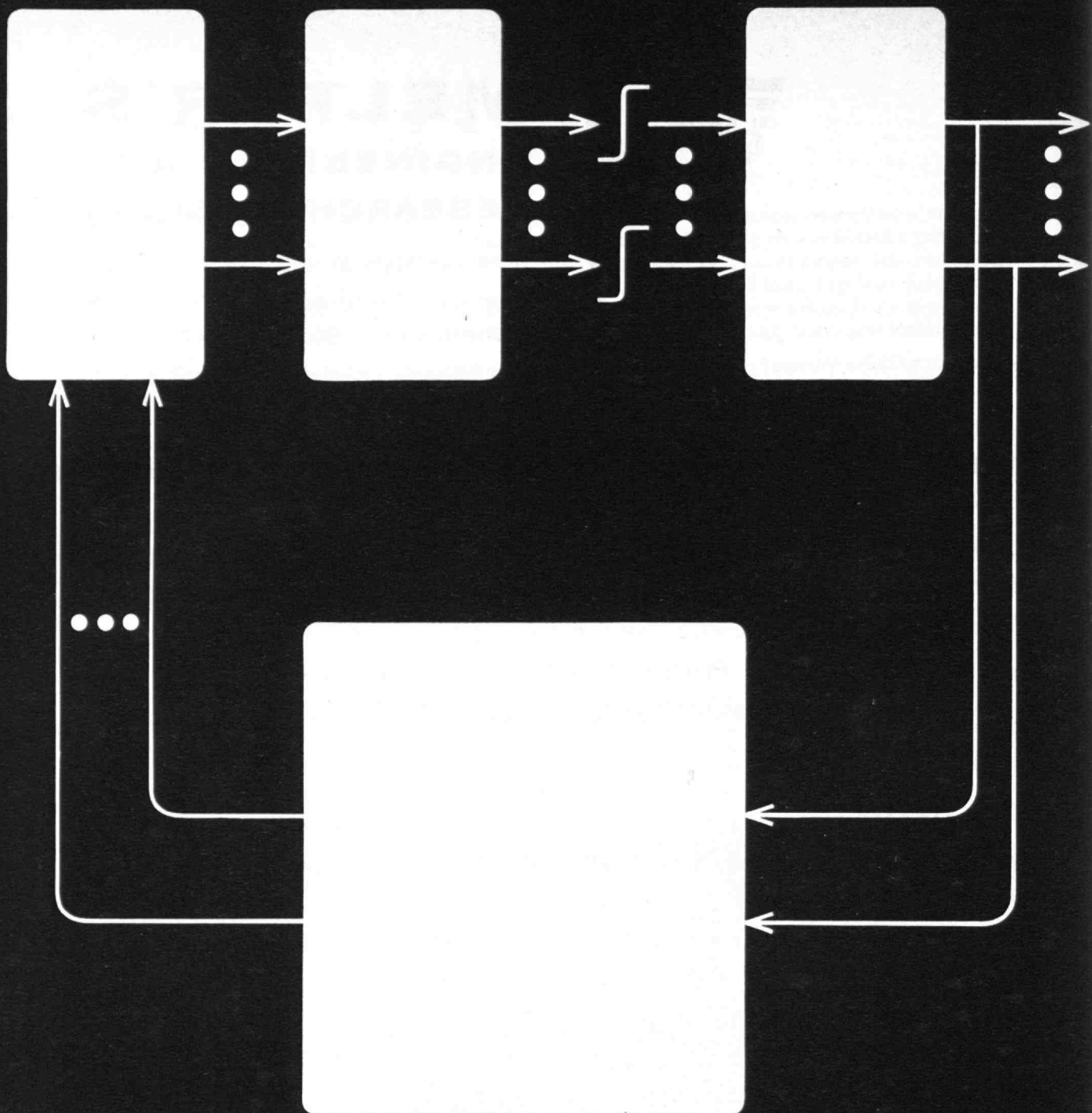
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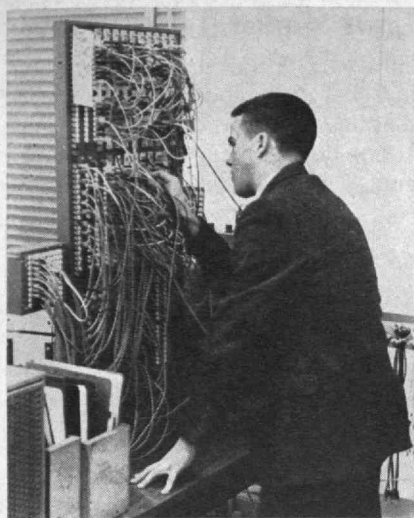
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Technology Review

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Edited at the Massachusetts Institute of Technology

Volume 66, Number 4



Alden Foster, '62, checks out electronic equipment he is developing to link real-time experiments in the Laboratory for Structural Models with computers operated from the Civil Engineering classroom described on page 9.

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The Review's publisher and editor is *Volta Torrey*; business manager, *R. T. Jope*, '28; assistant to the editor, *Ruth King*; and class news editor, *Roberta A. Clark*. Editorial consultants are *J. J. Rowlands*, *Francis E. Wylie*, and *John I. Matill*. Members of its staff are *Joyce Skinner* and *Maxine Kenny*.

Officers of the Alumni Association of M.I.T. are: *Robert H. Winters*, '33, President; *Donald P. Severance*, '38, Executive Vice-president; *F. Leroy Foster*, '25, and *Samuel A. Groves*, '34, Vice-presidents; and *Frederick G. Lehmann*, '51, Secretary.

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FEBRUARY, 1964

Contents

February, 1964

Computer-Aided Teaching

9

The Review's cover shows Professor Charles L. Miller, '51, lecturing while operating a computer in front of a TV camera. His new classroom is the scene of a fascinating educational experiment in which both freshmen and graduate students of Civil Engineering are now participating.

The Trend of Affairs

13

M.I.T. announces another series of special summer programs, reports advances in the exploration of outer space, and at the same time is greatly increasing space available on campus.

Between the Reporter and You

15

John T. Fitch, '52, M.I.T.'s man on your TV screen, describes how a science program is produced by WGBH for educational stations throughout the nation.

Our Manner of Speaking

19

The linguists are finding interesting clues to the way that we manipulate symbols when we talk; such work may help computers understand us.

You Should See the Hobby Shop

22

It has handsome new quarters, but Photographer George Woodruff finds the same sort of young fellows doing the same sort of work as in years gone by.

New Books

24

Nelson C. Lees, '53, describes an intriguing new book on Vietnam's Communists published by The M.I.T. Press.

François Matthes, '95, and the Marks of Time

25

John J. Rowlands reviews a volume of essays by the noted Alumnus who surveyed the mountains of the West.

Language Requirement for M.I.T. Doctorates

27

Dean Harold L. Hazen, '24, explains the problem and the way it is being met at the Institute.

Institute Yesteryears

28

Items that were news at M.I.T. 25, 50, 75, and 100 years ago, as recalled by the late H. E. Lobdell, '17.

The Old School Spirit at M.I.T.

30

Pretty cheerleaders and a hot band perform now when the Institute's Basketball Team takes the floor.

Individuals Noteworthy

Medalists

THE HONORARY Chairman of the M.I.T. Corporation, Vannevar Bush, '16, and Institute Professor, Emeritus, Norbert Wiener, were among the scientists designated by President Lyndon Johnson in December to receive 1963 National Medals of Science.

Kappa Sigma's Man

JAMES B. FISK, '31, a life member of the M.I.T. Corporation, was named 1963 Kappa Sigma Man of the Year in December at a banquet celebrating the founding of the M.I.T. chapter. Two of the founders, William R. Mattson, '13, and Clarence W. Brett, '13, were among the guests.

Honored in Japan

RECIPIENTS of the Japanese government's 1963 Cultural Day honors included two former visitors at M.I.T., Professor Emeritus Issaku Koga of Tokyo University who received the Cultural Medal, and Professor Emeritus Ryuzaburo Hara of Tohoku University to whom a Cultural Citation was presented. Professor Koga is an electrical engineer and Professor Hara is a chemist.

Honors to Alumni

RECIPIENTS of recent awards and similar distinctions have included:

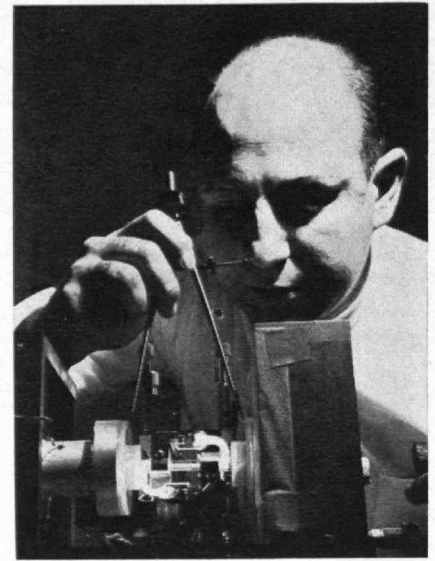
Samuel E. Lunden, '21, the 1963 Edward C. Kemper Award by the American Institute of Architects . . . *Ronald G. Macdonald*, '22, the TAPPI Medal by the Technical Association of the Pulp and Paper Industry . . . *Major Jack W. Hunter*, '55, the Commendation Medal by the United States Air Force.

Faculty People

NEWLY ELECTED Fellows of the Institute of Electrical and Electronics Engineers, Inc., include Professors *William M. Siebert*, '46, *Jerrold R. Zacharias*, and *Richard H. Bolt*; *Herbert G. Weiss*, '40, and *Thomas F. Rogers* of Lincoln Laboratory; and *Warren S. McCulloch* of the Research Laboratory of Electronics. . . . Serving on committees for the Sixth International Congress of Biochemistry are Professors *Vernon M. Ingram*, *John M. Buchanan*, and *Boris Magasanik*. . . . The 1962 Lester D. Gardner Lecture on Aircraft Propulsion by Emeritus Professor *C. Fayette Taylor* has been published in the Annual Report of the Smithsonian Institution for 1962.

Laser Worker

EUGENE I. GORDON, '57, participated in Bell Telephone Laboratories work that has led to production of a miniature helium-neon gas laser which emits a single frequency of visible red



Eugene I. Gordon, '57

light. Its discharge tube is only two inches long, and it operates continuously at room temperatures on direct current. Several miniature lasers have been built and used as single-frequency oscillators at different frequencies, the Laboratories report. Such lasers are expected to serve as very precise measuring instruments.

The first helium-neon gas laser was invented by Ali Javan, Associate Professor of Physics at M.I.T., while he was working at the Bell Telephone Laboratories.

Statisticians' Leader

ALBERT HOSMER BOWKER, '41, Chancellor of The City University of New York, became president on January 1 of the American Statistical Association which this year will celebrate its 125th anniversary.

Formed by five men when statistics was considered an "ivory tower" subject, the Association now has more than 8,000 members, largely because of the great expansion of statistical work in recent years.

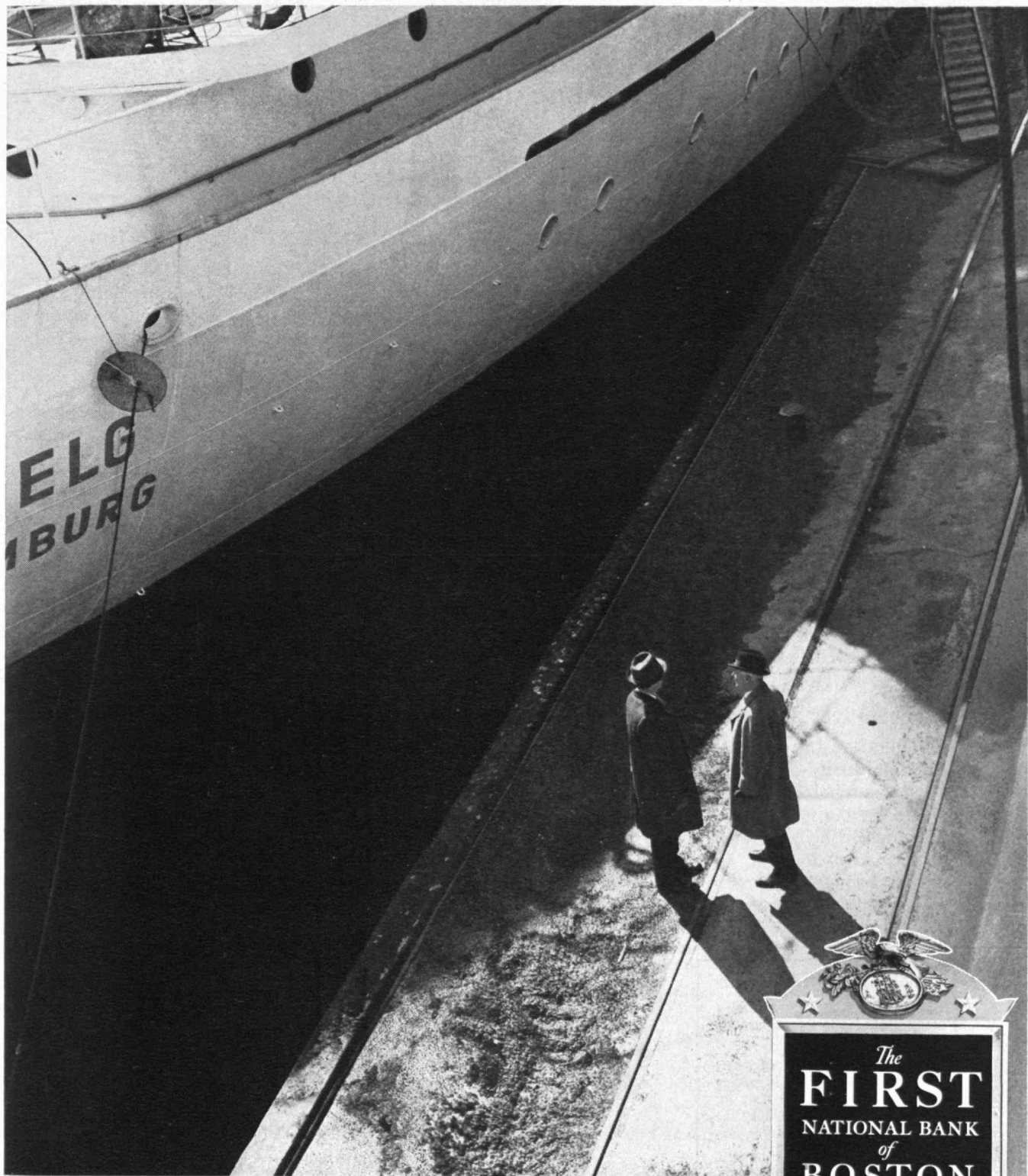
Dr. Bowker, a leader in developing and applying statistical science to engineering, military, and industrial problems, was formerly dean of the Graduate Division of Stanford University and president of the Institute of Mathematical Statistics.

(Continued on page 6)



THE TROPHY in sailing competition sponsored by the Department of Naval Architecture and Marine Engineering last fall went to the Department of Aeronautics and Astronautics. Holding it is Bill Widnall, '59. With him are Professors C. Stark Draper, '26, and H. Guyford Stever.

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Individuals Noteworthy

(Continued from page 4)

T. V. Houser: 1892-1963

A LIFE MEMBER of the M.I.T. Corporation, Theodore V. Houser, died in New York in December. Mr. Houser was associated for 30 years with Sears, Roebuck and Company and was its chief executive officer when he retired in 1958.

Born in Kansas City, he was educated at Iowa State University, and began his career as an electrical engineer. He became vice-president of Sears, Roebuck and Company in 1939, and chairman of its board in 1954. At the time of his death, he was chairman of the Executive Committee of Bell & Howell Company, and a director of Quaker Oats Company and American Hospital Supply Corporation.

He served on a number of M.I.T. Visiting Committees, became a special term member of the Corporation in 1954, and had an important role in the Institute's recent fund drives. He was also a trustee of Northwestern University, George Williams College, and the Committee on Economic Development. He was vice-chairman of the Business Advisory Council of the Department of Commerce in the late 1950's.

He is survived by his wife; two daughters, Mrs. Elizabeth H. Hennessy and Mrs. Mary H. Lewis; and a brother, Lowell D. Houser.

Rhodes Scholar

THOMAS P. GERRITY, JR., '63, will enter Oxford University as one of this year's Rhodes scholars. He will be a candidate for the master's degree in Electrical Engineering at M.I.T. in June. At Oxford, he expects to use his knowledge of engineering in the study of information processing in the nervous system.

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Ross Cunningham: 1907-1963

A MEMBER of the M.I.T. Faculty since 1937, Ross M. Cunningham died after a brief illness in December. He was associate professor of marketing in the School of Industrial Management, and a former president and secretary of the American Marketing Association.

Dr. Cunningham was the son of the late William James Cunningham, professor of transportation at the Harvard School of Business Administration, and received his degrees from Harvard.

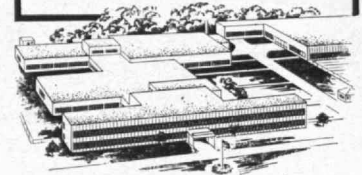
From 1934 to 1937 he was associate professor at the University of Tennessee and associated with the Economics Research Division of the Tennessee Valley Authority. After coming to M.I.T. he was assistant fiscal officer in the Division of Industrial Cooperation for three years, and also a consultant to the Office of Civilian Requirements of the War Production Board. He was an authority on brand loyalty and co-author of *Industrial Marketing*. He was founder and first president of the Boston Chapter of the American Marketing Association.

He is survived by his wife, Mary,

Hormell Cunningham; a son, Scott M. Cunningham; a daughter, Marcia E. Santner; his stepmother, and four grandchildren.

(Concluded on page 32)

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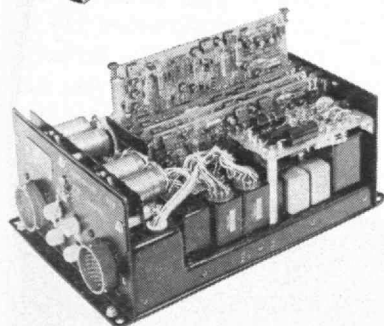
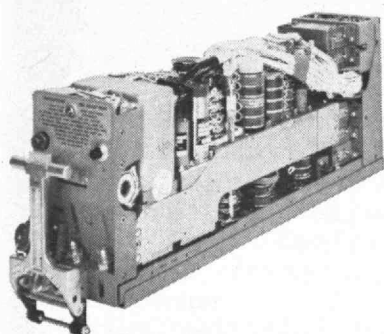
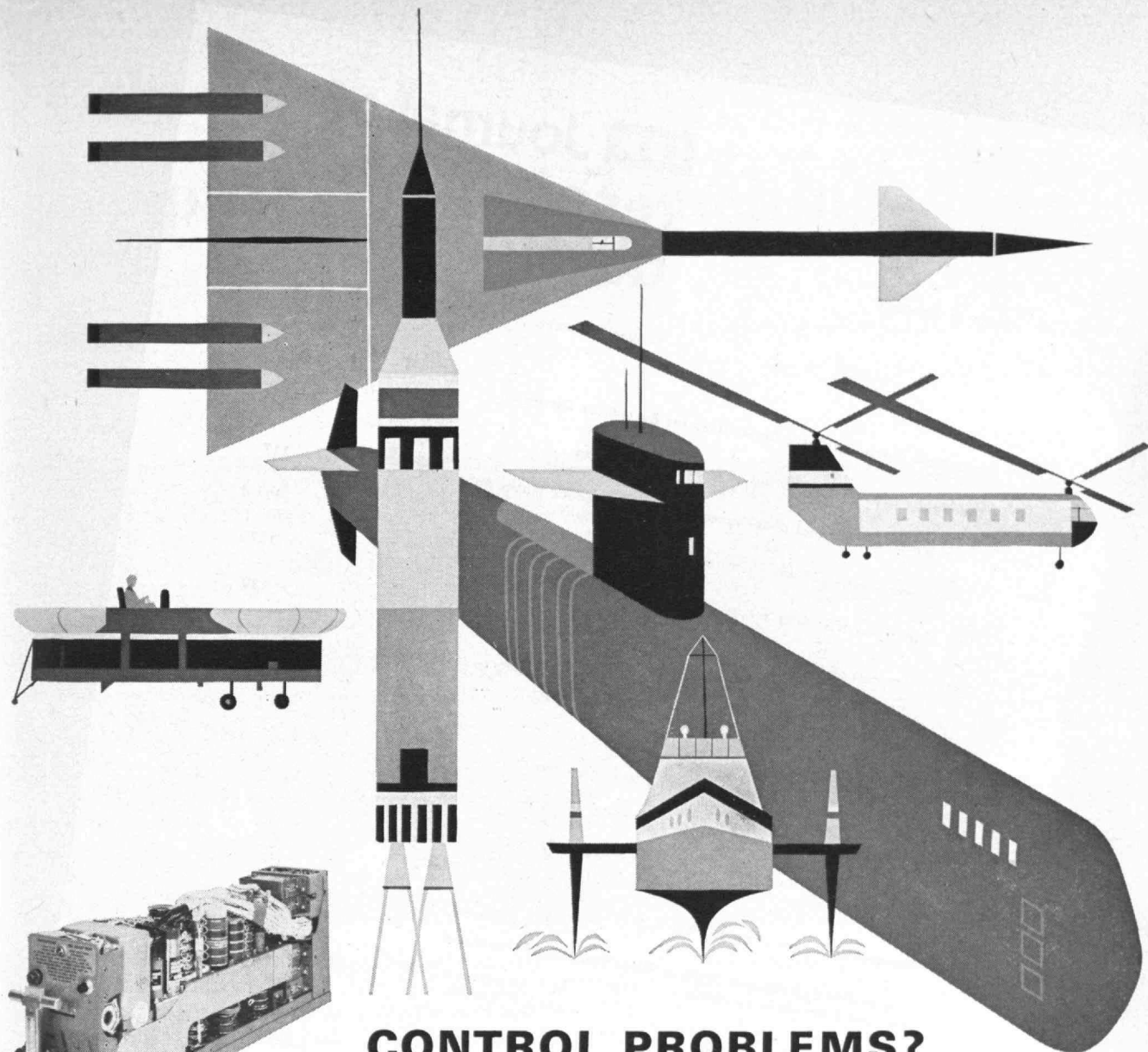
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Table of Contents

Volume 7, Number 2, April 1963

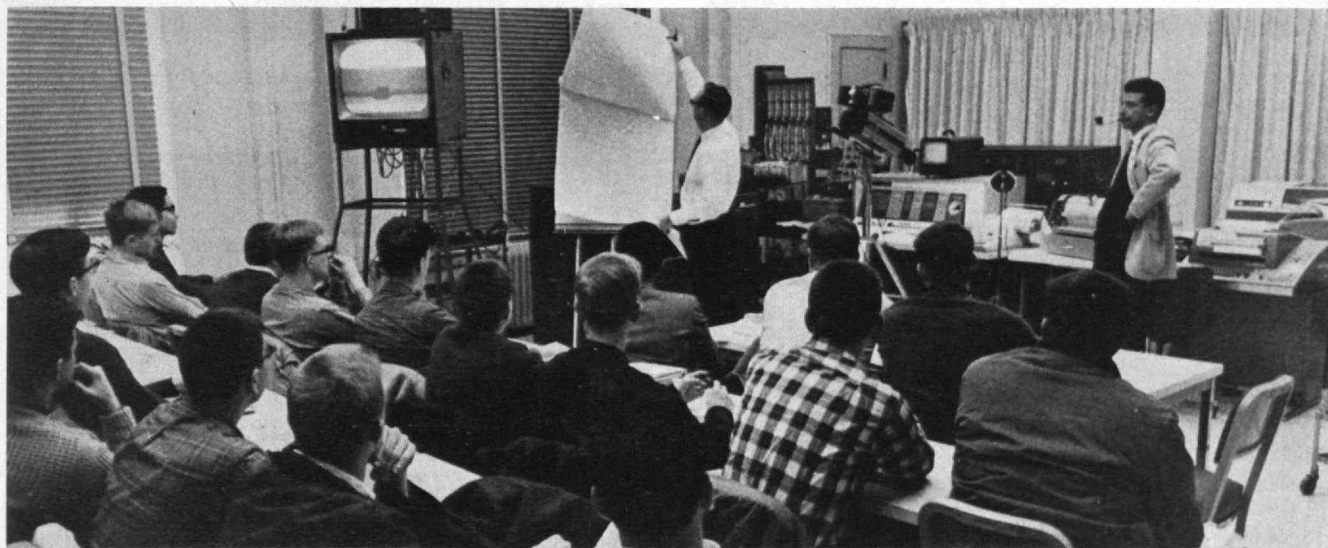
<i>Articles:</i>	
Some New Classes of Cyclic Codes Used for Burst-Error Correction	102
E. Gorog	
The Lightly Loaded Foil Bearing at Zero Angle of Wrap	112
W. E. Langlois	
Propagation of Torsional Disturbances in a Homogeneous Elastic Sphere	117
Yasuo Satō	
A Method for Key-to-Address Transformation	121
G. Schay and N. Raver	
An Application of Coding Theory to a File Address Problem	127
M. Hanan and F. P. Palermo	
Magnetization of Uniaxial Cylindrical Thin Films	130
H. J. Kump and T. G. Greene	
A Liquid Scintillation Counter Using Anticoincidence Shielding	135
G. J. Sprokel	
<i>Short Communications:</i>	
Fly's-Eye Lens Technique for Generating Semiconductor Device Fabrication Masks	146
W. E. Rudge, W. E. Harding and W. E. Mutter	
A Note on Extending Certain Codes to Correct Error Bursts in Longer Messages	151
C. M. Melas and E. Gorog	
Nominal Clearance of the Foil Bearing	153
H. K. Baumeister	
Line Widths and Pressure Shifts in Mode Structure of Stimulated Emission from GaAs Junctions	155
M. J. Stevenson, J. D. Axe and J. R. Lankard	
<i>Letters to the Editor:</i>	
Threshold Current for p-n Junction Lasers	157
J. L. Moll and J. F. Gibbons	
On the Direct Observation of the Substructure Network in Iron	160
G. Koves and J. Pesch	
Abstracts	163
Patents	175
Authors	178

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Computer-Aided Teaching

Civil Engineering students can now learn more faster with a black box than with a blackboard



MOST teachers still use blackboards. They are so simple that they seldom distract students from what is put on them. Electronic computers are the antithesis of blackboards. Their speed, versatility, and colored lights almost hypnotize many people. That a computer can compete with a blackboard as a teaching aid may seem preposterous.

In a classroom in M.I.T.'s Building 1, nevertheless, the blackboard behind the instructor has been curtained off, and a digital computer purrs in front of it. Two elevated TV screens enable even the boys in the back row to see everything that goes into and comes out of the machine. But this room was not furnished so theatrically for demonstrations, as you might suppose, of computer operation, electrical phenomena, or even mathematical wizardry. Instead, Room 1-150 was designed for study of fundamental principles of engineering disciplines and the methodology of civil engineering practice.

Wouldn't Mark Hopkins' log be better? Horse sense makes nearly everyone wonder how any young man can pay attention to lectures on the fundamentals of engineering in the presence of such an alluring array of new tools. But the horse sense of most people has not caught up yet with recent developments in computer technology.

It's easier, thanks to these changes, for the Class of '67 to ignore what goes on inside a computer's cabinets

Professor Miller lecturing to freshmen on computer approaches to engineering problems in his new classroom.

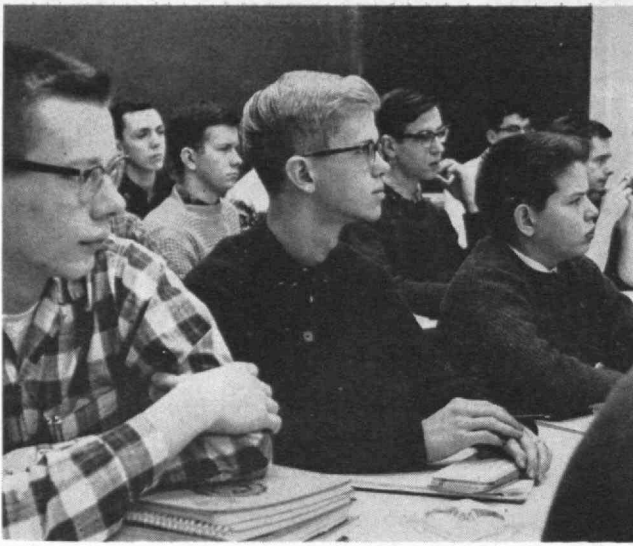
than it was for the Class of '57. Students now can operate one of the big new electronic black boxes almost as casually as they dial telephone numbers, and focus their attention on its output. The Department of Civil Engineering is convinced, consequently, that such apparatus can be used exactly like a blackboard, to show neophytes how an engineer analyzes and solves complex problems.

Computer-aided instruction is still experimental. Classes have met in the new room for only a few months, and passers-by still pause at its doorway to gape, but students no longer find this new environment strange. Their professors expect, therefore, to use its modern facilities increasingly during their lectures.

Between classes, the room serves as a laboratory. Students have kept its machinery clicking all day long ever since it was opened. With the computer's help, they are solving problems in a few hours that would have kept their predecessors burning the midnight oil for months.

Computer Communication

The speed with which a computer can do complicated and reiterative work razzledazzled everyone in the 1950's. Men using the machines have called them mo-



1 Robert Mitchell, '67 (in center), never touched a big computer before entering Professor Miller's class.

rons, however, because a computer never does anything worth while without being told exactly how to do it. Every step must be specified, and every command expressible in numbers, with every digit correct. Learning the machine's language takes time and using it can be exhausting.

As more machines became available, better means of programming them than writing long columns of numbers were clearly needed, and "symbolic assembly" languages were developed to meet that need. These languages permit a person to use letters of the alphabet rather than numerals in many instances. Instead of writing 390792500100 when you want a certain column of numbers typed out by a machine, a "symbolic assembly" language allows you to write WATY MESS, which is somewhat easier.

Communication between men and machines was further improved, after the assembly languages were worked out, by the introduction of "algebraic compiler" languages. One of the most popular of these is FORTRAN, a name derived from FORMula TRANslator. With it, a person instructing a machine can use some such common English words as "read," "print," and "if," and state his problem more nearly the way that he might in a technical publication. " $C=A+X-10$," for example, is how a FORTRAN writer might tell his computer to replace a number designated as C by another number having the value of A plus X minus 10.

In addition to creating new languages, computer users have built up libraries of programs. Parts of a program written to solve one problem often can be used in another problem to solve a different problem. Like other libraries, however, these collections of programs do not always include everything that their patrons want. Hence, directing a machine to work out an engineering problem may still take months of work and cost thousands of dollars.

The New Languages

The cost and difficulty of using a computer on an engineering job is being reduced now, however, by the development of still another kind of language. It is easier



2 From notes taken in class, he punches cards to feed a problem assigned as home work to the machine.

to use than the languages invented earlier, and has made the use of a computer in a college classroom feasible.

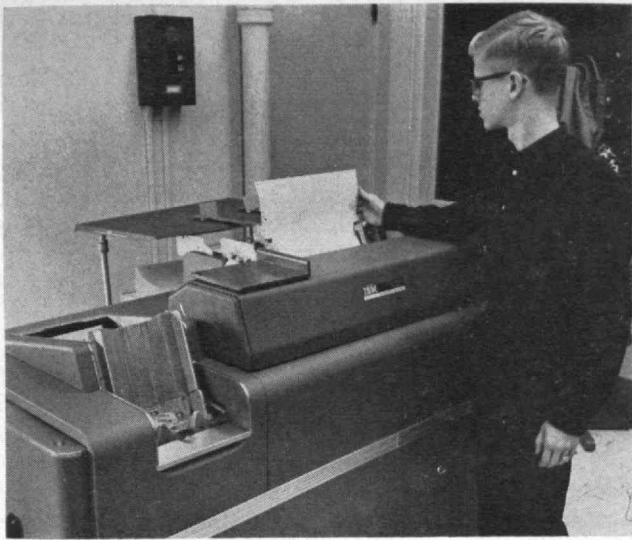
There are several varieties of the new kind of language. All of them are problem-oriented rather than machine-oriented. You choose one to fit your problem. Then, with it, you can use the same words in your instructions to the machine that you would use to describe that problem to a colleague or fraternity brother.

One of the new problem-oriented languages is called COGO, for COordinated GeOMETRY, and consists of about 70 words, such as "point," "distance," and "locate," that people have been using for centuries to instruct others in the solution of geometrical problems. Another such language is STRESS, which stands for STRuctural Engineering System Solver. Its vocabulary includes, in addition to many of the same words as COGO, the words that structural engineers habitually use in discussing their problems. A third language of this new type is SEPOL, for Soil Engineering Problem-Oriented Language, and it includes another set of special terms.

Each word in these new languages is a kind of shorthand symbol that can be quickly translated, in effect, into a numerical form within the machine. Each word sets up a series of switches. These, in turn, will cause the machine to perform thousands of mathematical operations without any further directions from a person. When issued as a command, therefore, each word relieves the person using the machine of the labor of spelling out things that will be involved in heeding that command.

Creating a problem-oriented language is no small feat. Its vocabulary is determined both by the machine's capabilities and the ways in which people are accustomed to using words. Inclusion of the word "DUMP" in COGO, for example, proved to be troublesome because it means "write everything out so we can see what's wrong" in a computer laboratory, but something very different to most city engineers. Efforts are being made now to delete "DUMP" from the COGO dictionary.

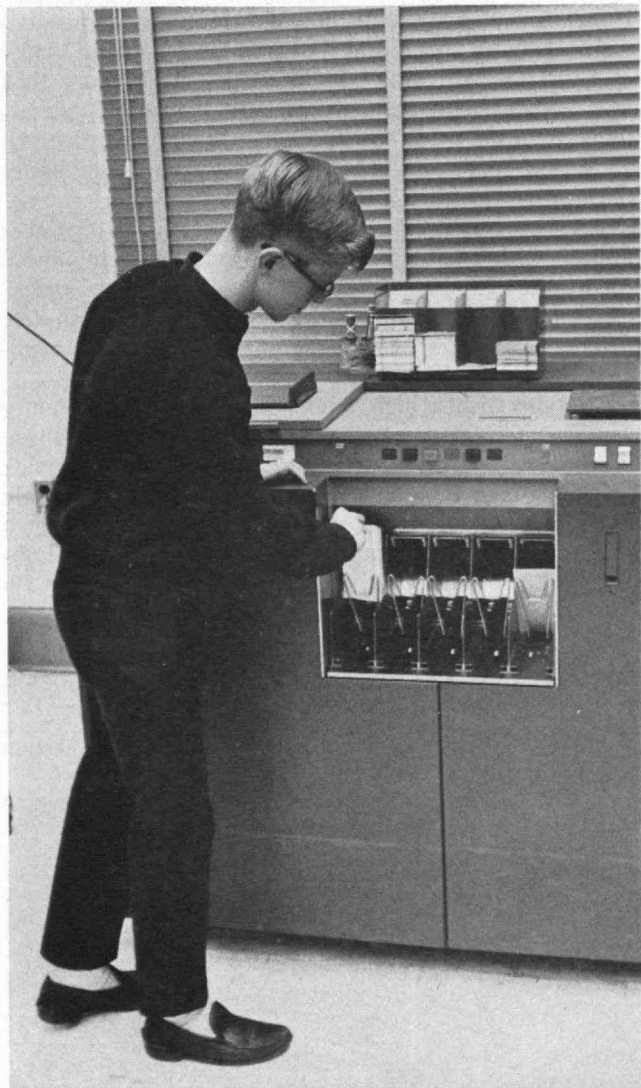
Although many engineering concerns have bought computers, they are not using their machines as ex-



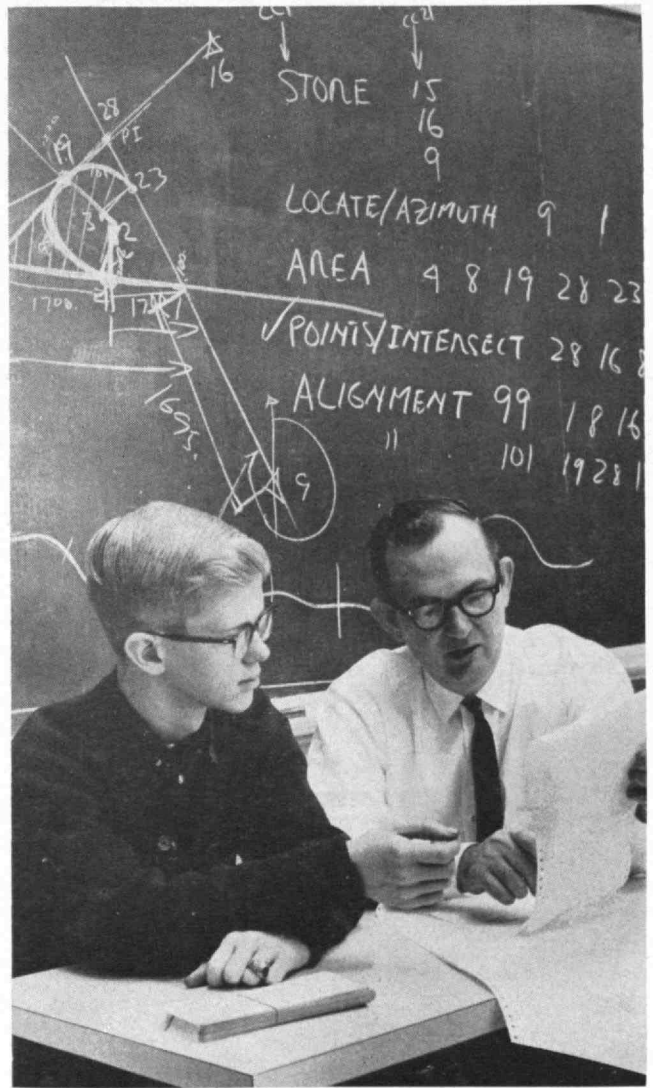
3 The program punched in his cards is printed out for him to check before he feeds them to the computer.



4 He then returns to his classroom, puts them in the hopper at left and starts the IBM 1620 computer.



5 The computer produces a second set of cards giving its answer to the problem that Mitchell programmed it to solve. The cards punched by the machine are at the left, those that the student punched and fed to the machine are being returned to him in hopper at right.



6 Mitchell reviews his computer results with Professor Miller. They use the blackboard in the rear of the classroom during this conference, and discuss variations in the engineering parameters which might improve the design that the student and the computer produced.

tensively as such machines are being used in businesses in which the work is more largely routine. The problem-oriented languages were devised to reduce the cost of directing a machine to solve unique problems, and will facilitate more use of computers in engineering. These languages already have been a boon to M.I.T.'s students.

The New Hardware

Further improvements in computing hardware, as well as the software associated with the machines, make it likely that future generations of engineers will use big digital computers nearly as commonly as engineers use slide rules nowadays. A new programming system called "Sketchpad" permits a man to communicate with a machine by drawing sketches for it on an oscilloscope with a light pen. Like a human assistant, to whom he might explain an idea similarly, the machine then can help him decide whether to perfect or reject the idea that he has suggested crudely by his sketches.

To be of maximum value to an engineer, of course, a computer must not only be easy to use but have substantial capabilities. Its services also must be available almost instantly whenever needed. Meeting these requirements is still prohibitively expensive in many instances. People are still doing work that machines could do cheaper and quicker, but this will not be necessary so often henceforth.

You can see why in the M.I.T. classroom. Its computer is an IBM 1620. It has only a 360,000-bit memory, and is a small machine compared to many others. Its usefulness was increased last fall, however, by the installation of a 32,000,000-bit magnetic disk memory, from which information can be retrieved faster than from reels of tape. Even so, of course, it is no match for an IBM 7094, which can operate so fast that it can serve many users almost simultaneously.

Two big 7094's, however, can now be operated, in addition to the 1620, directly from the Civil Engineering Department's new classroom. One of these machines is in the Computation Center in the Compton building, and the other even farther away, in Technology Square,

but both are connected by telephone lines to typewriters alongside the console of the 1620.

Whenever a professor or a student has a problem beyond the capabilities of the 1620, he can feed it instead to the 7094 in the Compton building. Time-sharing makes this possible. It is an arrangement, in effect at the M.I.T. Computation Center for many months, which permits a remote operator to "cut in" and utilize the big machine's capabilities whenever he wishes.

Time-sharing is being further explored by participants in Project MAC, an acronym for either Multiple-Access Computer or Machine-Aided Cognition. They are using a 7094 in Technology Square, and the Civil Engineering Department's classroom has been connected to that machine as well as to the Computation Center's 7094 for study of time-sharing's potentialities in engineering. Time-sharing arrangements eventually may enable an engineer anywhere in the country to have almost instant access to as much computing capability as he ever is likely to need.

The Educational Advantages

Engineers, of course, do not climb mountains just because they are there, and the Civil Engineering Faculty at M.I.T. is not using computers merely because they are available. Nor are the professors concerned primarily with familiarizing future engineers with today's hardware and software. They emphasize two much better reasons for having a computer in a classroom:

- 1) The character of the decisions that an engineer and designer must make can be shown to students more forcefully with a computer than without one, and
- 2) Using the computer enables students to complete bigger, more challenging assignments in the time available.

Anyone with a high school knowledge of geometry can learn COGO almost as easily as he can learn to ride a bicycle. He then can be given much more complex problems than he would have time to solve if his only tools were a pencil and pad of paper. Freshmen in a class in "Computer Approaches to Engineering Prob-

(Concluded on page 39)



Ed Newman, '57, research engineer, and Professor Miller demonstrate magnetic disk memory in the classroom.



An IBM 7094 in M.I.T.'s Computation Center can be operated from the classroom via a time-shared console.

Trend Of Affairs

M.I.T.'s Summer Programs

AGAIN next summer, M.I.T. will offer a great many special programs likely to interest numerous Alumni. The topics and the instructors in charge are listed below, with the starting dates. Those marked with an asterisk (*) will be one week long; all others, two weeks.

Concepts of Management Planning and Control Systems, Associate Professor Z. S. Zannetos, '55, June 16.

Industrial Dynamics: Advanced, Professor J. W. Forrester, '45, June 16.

Industrial Photoelasticity,* Professor W. M. Murray, '33, June 16.

City and Regional Planning, Professor F. J. Adams, June 22.

Communicating Technical Information,* Associate Professor R. R. Rathbone, June 22.

Nondestructive Testing,* Professor W. M. Murray, '33, June 22.

Physical Measurement and Analysis, Associate Professor N. H. Cook, '50, June 22.

Modern Developments in Heat Transfer, Professor W. M. Rohsenow, June 22.

Structure and Mechanical Properties of Fibres and Crystalline Polymers,* Vis. Asso. Prof. J. W. S. Hearle and Asst. Prof. R. D. Andrews, June 22.

Structural Models,* Prof. R. J. Hansen, '48, June 29.

Structural Mechanics of Textile Materials,* Professor Stanley Backer, '41, June 29.

Thermodynamics, A Unifying Science,* Professor J. H. Keenan, '22, June 29.

Strain Gage Techniques: Lectures,* Professor W. M. Murray, '33, July 6.

Dynamics of Textile Processes,* Professor Stanley Backer, '41, July 6.

Fermentation Technology,* Assistant Professor R. I. Mateles, '56, July 6.

Strain Gage Techniques: Laboratory,* Professor W. M. Murray, '33, July 13.

Techniques in High-Speed Photography,* Professor H. E. Edgerton, '27, July 27.

Two-Phase Flow, Asso. Prof. P. Griffith, '56, July 27.

Electron Microanalysis: Instrumentation and Applications, Associate Professor R. E. Ogilvie, '52, August 3.

Infrared Spectroscopy: Technique,* Professor R. C. Lord, August 10.

Infrared Spectroscopy: Application,* Professor R. C. Lord, August 17.

Noise and Vibration Reduction, Dr. L. L. Beranek, August 17.

Management of Research and Development, Professor D. G. Marquis, August 17.

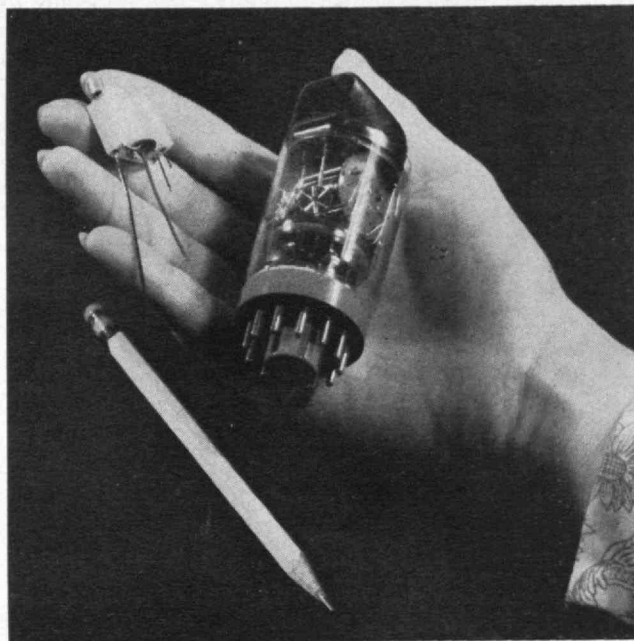
Probabilistic Methods in the Control of Operations, Associate Professor G. P. Wadsworth, '30, August 31.

Probabilistic Systems Analysis, Associate Professor R. A. Howard, '55, August 31.

Operations Research in Marketing,* Associate Professor J. D. C. Little, '48, September 8.

A New Way to Locate Stars

FOR interplanetary navigation, Sanford Cohen, a special graduate student, and Associate Professor Winston R. Markey, '51, have proposed the use of a device much smaller than a multiplier phototube to detect stellar radiation. It has a photovoltaic cell of gallium arsenide



combined with a field-effect transistor, and is simple, rugged, and relatively inexpensive. It is less sensitive than a tube, but also electronically less noisy, and when further developed may perform as well as a multiplier phototube. (The photo shows how small it is.)

Study of the device in the Experimental Astronomy Laboratory at M.I.T. has indicated that it is theoretically capable of sensing stars of a magnitude that would be used in extraterrestrial navigation. Since its peak sensitivity is in the infrared part of the spectrum—and heat radiated from the stars is scattered very little by daylight here on earth—it may also help earthbound navigators locate stars at times when their visible light cannot be seen.

Matter Between Stars

THE DETECTION of the hydroxyl radical (OH) in interstellar space by researchers at Lincoln Laboratory's Millstone Hill Observatory (reported in *The Review* last month) was followed up quickly by radio astronomers elsewhere.

Within 10 days of the first report, OH was detected with the new 210-foot radio telescope near Parkes, Australia, which is generally considered one of the finest instruments of its kind in the world. Up here in the Northern Hemisphere, OH was found in spiral arms toward the edge of the galaxy by noting its absorption of radio emissions from Cassiopeia A. Down in the Southern Hemisphere, that star was below the horizon. So members of the Commonwealth Scientific and Industrial Research Organization looked for evidence of OH in emanations from Sagittarius A, a radio source toward the center of the galaxy. The results, from a different source and different direction, were closely in accord with those that had been reported from M.I.T.

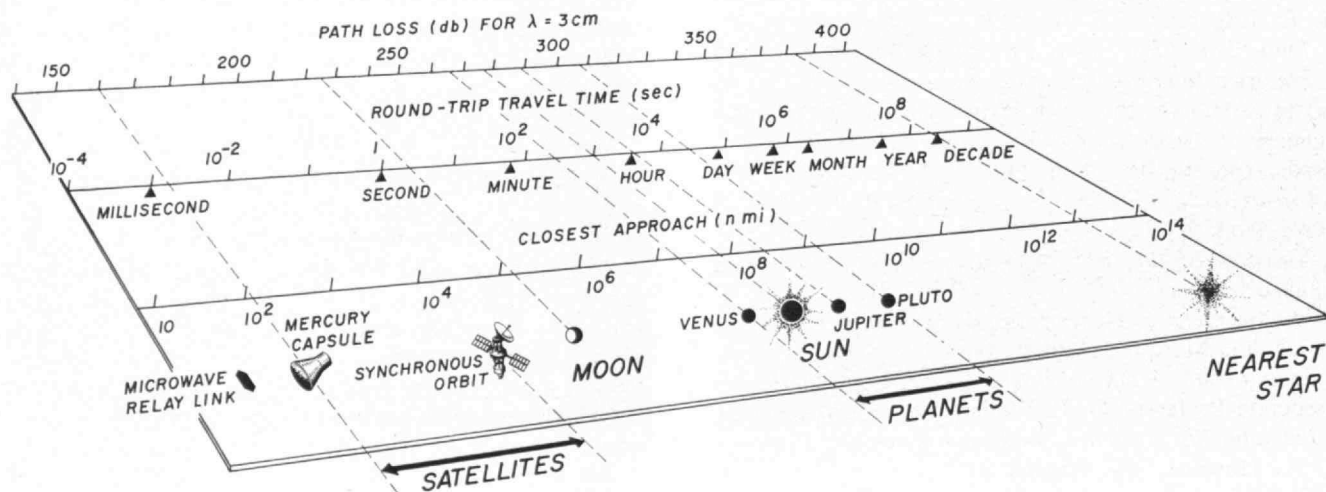
The Pace in Space

SPACE is becoming a household word, as space communications and even space travel are being transmuted from a rather specialized field of science-fiction to technological realities on so large a scale as to constitute major national objectives. The boundary line between fact and fiction moves so swiftly at times that it seems to blur slightly, and its exact location is sometimes quite uncertain. In part, at least, this is a natural consequence of the difficulty of shifting our attention suddenly from local, terrestrial matters to encompass lunar, planetary, and even interstellar distances.

The chart below was prepared at Lincoln Laboratory to provide some quantitative mileposts along this vast new distance scale, with particular attention to two-way communication by radio (or laser beam). The distance scale extends from the length of a typical microwave relay link between ground stations (about 30 miles), a familiar feature of modern telephone and television transmission networks, to the distance from our Sun to its closest celestial sister, Alpha Centauri (about four light-years, or 24 million million miles). The distance to the planets is indicated at their closest approach to Earth; the other distances vary relatively little as a function of time.

The round-trip travel time for a radio or radar signal, traveling at the speed of light, is shown in the next scale, which runs from a millisecond to a decade. (Tech men will have no difficulty in recognizing that both the distance and time scales have to be logarithmic, like the scale on a slide rule, in order to accommodate the wide range of values covered.) Unless some signal is found that moves much faster than light—and there is no sign of one yet—communication with the nearest stars, or even the more distant planets, will call for great patience.

The average reader can safely ignore the "path loss" scale. In return, he may be thankful that this chart is limited to distances that are short enough to be practical for two-way radio communication. If a chart were to be drawn on a comparable scale dealing with distances of interest to radio astronomers—who study remote galaxies and the outer fringes of the universe—this entire range would occupy only the first scale division at the bottom end.



An indication of the immensity of space and the time lag in communicating with satellites, planets, and the nearest star.

X-rays from Afar

NEW LIGHT has been shed, quite literally, on cosmological questions of much interest to M.I.T. physicists by rocket-borne radiation detectors. The existence of a source of x-rays in the Milky Way but outside of the solar system has been verified. Further study of such radiation, in addition to the other emissions from various parts of the galaxy, now may illuminate problems about which there has long been much uncertainty.

The sun's radiation includes x-rays, from which the earth's atmosphere shields us. To study this solar radiation, and look for reflections of it from the moon, instruments have been sent aloft from the White Sands Missile Range in New Mexico. Such research has yielded indications of sources other than the sun, and one of them in the general direction of Scorpius now has been observed three times.

X-ray astronomy's birth in this manner was indicated in the December 15 issue of *Physical Review Letters* by a report from Herbert Gursky, Riccardo Giacconi, and Frank R. Paolini, '60, of American Science and Engineering, Inc., and Professor Bruno B. Rossi of M.I.T. The x-ray source near Scorpius, they reported, was first observed in June, 1962. It was noted again later by Herbert Friedman of the Naval Research Laboratory, and observed for a third time in June, 1963. Its strength is not sufficient to make its x-rays a menace to men going to the moon, but enough to indicate that the radiation must be originating within the galaxy.

How these x-rays are being produced is not clear. At a conference on cosmic rays in Jaipur, India, last December, however, Associate Professor George W. Clark, '52, and Minoru Oda, a guest of the Laboratory for Nuclear Science, presented a paper in which they suggested that the source near Scorpius might be a remnant of a supernova (an exploding star) within 30 light-years of us. Further scanning of the sky for x-rays is planned with instruments aboard the Orbiting Solar Observatory that is now scheduled to go aloft in 1965.

The Minta Martin Lecture

PROFESSOR HANS H. ZIEGLER of Zurich will give this year's Minta Martin Lecture in the Kresge Little Theater at 8:00 P.M., on February 25, on "Thermodynamic Considerations in Continuum Mechanics."



Institute Philosophers

A GRADUATE PROGRAM in philosophy at M.I.T. leading to the Ph.D. degree was approved by the Corporation on December 2, and Hilary Putnam, Professor of the Philosophy of Science, has become its director. It is the first graduate program in the humanities at M.I.T.

Designed to attend especially to aspects of philosophy related to areas of M.I.T.'s existing strength, the program will concentrate on the philosophy of science without being limited to it. The philosophy of mathematics, the philosophy of physics, the philosophy of psychology, and the philosophy of language as related to M.I.T.'s linguistics program will be fields of special emphasis. Theses dealing with the philosophy of a specific science will be supervised jointly by a philosopher and a scientist from the field in question. Commenting on this aspect of the program, the *ad hoc* committee that was convened last year to evaluate the program observed: "Only unusual students would care to expose themselves to so ambitious a program, but we would expect it to be possible to admit 10 promising and ambitious students per year into what would in fact be an elite group."

This committee, which was composed of three eminent philosophers from outside the Institute and three M.I.T. professors outside the Department of Humanities, endorsed the proposed program in these words:

THIS PICTURE, from the President's Report to the Corporation for 1963 (which is being sent to all Alumni), suggests how M.I.T. will look in the summer of 1966.

The tall building at the left is the nearly finished Green Building for the Earth Sciences. To the right of it is the Center for the Life Sciences and to the right of the Great Dome the Center for Materials Science and Engineering, now being built. Planned, too, are a new structure on the near side of Massachusetts Avenue to house the Center for Advanced Engineering Study, and one facing Vassar Street for the Center for Space Research. Beyond Massachusetts Avenue, the new Student Center will be to the right of Kresge Auditorium. The new housing for married students is in the upper right corner. The building in the lower right corner is in the new Technology Square.

"The committee is unanimous in its belief that there should be philosophy at M.I.T., that M.I.T. already has in residence and in prospect a first-class group of philosophers, and that the proposed Ph.D. program can give M.I.T. a characteristic, distinctive, and important place among the universities of the United States producing Ph.D.'s in philosophy."

Although the program does not formally open until next fall, four students are already proceeding informally with their graduate studies.

Between the Reporter and You

The science program that M.I.T. helps provide to educational TV stations takes months of work and a bus load of electronic tools

BY JOHN T. FITCH, '52

M.I.T. Science Reporter

THIRTY-TWO times a year, a long aluminum bus with a red streak down its sides rolls up to a laboratory or classroom in the greater Boston area. Within minutes, the first of 21 people then arrive to spend a busy day either in that bus or at the other end of cables run into the building. Twelve hours later the people disperse and the bus rumbles off with nothing to show for their feverish activity except a small fiber-board box containing a reel of tape. But it is magnetic videotape which will be copied and broadcast later by nearly 80 National Educational Television stations.

The program is "Science Reporter," one of educational television's oldest offerings. People from coast to coast now see it without any idea of the amount of work involved in getting it to their homes.

The behind-the-scenes story of each half-hour show begins long before it goes on the air. The theme, in fact, may have been suggested two years in advance at a conference on plans for the season, attended by representatives of M.I.T., which is responsible for the content of the programs, and the staff of WGBH, the Boston educational station responsible for their production.

As the name implies, each program is reportorial, and topics and guests are determined largely by developments in science and technology, rather than in order to cover all aspects of science.

The Laser Program

Let us follow one particular program from its beginning a year ago to its broadcast during the early part of 1964—a program on lasers. At one of the conferences mentioned earlier, someone pointed out that an interesting experiment was being conducted in which lasers were being used to test one aspect of the special

theory of relativity. There was probably some objection, at first, that such a subject would be difficult to explain in a single half-hour program. Nevertheless, it appeared on the preliminary working list of ideas to be investigated for this season.

At a later meeting, this list was re-examined preparatory to submitting proposals to National Educational Television and NASA for financial support. Laser technology had continued to develop in the interim, and it was agreed that there probably ought to be two programs instead of one: a new program on lasers in general, and the original program changed in emphasis to make relativity the primary subject with the laser relegated to the role of a laboratory tool.

The next step was for the producer to start pinning down subjects and guests to a firm series of commitments. In this case, Charles Townes, the Provost of M.I.T., was approached because of his fame among laser workers. Since the relativity experiment also was being conducted under his aegis, he was asked about the suitability of two programs. He agreed to appear on a general laser program but suggested that there be no program about the experiment because it was too early to announce significant results.

So what was to have been two programs went through a metamorphosis that resulted in an entirely different plan. This often happens in "Science Reporter" programming. Even during the actual broadcast season, some program ideas are dropped and new ones picked up to take their place. The laser idea, however, remained on the schedule as "Program #17—'Lasers' (working title)—to be videotaped at M.I.T. on December 18 for NET distribution during the week of January 12, 1964."

As December approached, the "Science Reporter" team devoted increasing attention to the upcoming laser program while continuing to work on others in various stages of production. When the producer and researcher met with Dr. Townes, he suggested the addition of Perry A. Miles, Associate Professor of Electrical Engineering, to perform the actual laser demonstrations. Then, as an outline of material to be covered and experiments to be performed began to develop, the production assistant started checking on the availability of props—a gas laser, a ruby laser, photographs to be enlarged, and many other items.

The Endless Details

About two weeks before the shooting date, the director surveyed possible sites for making the program as visually interesting and attractive as possible. If Dr. Townes were interviewed in his office, where should Dr. Miles present his demonstrations? Moving all the cameras from one building to another to meet Dr. Miles in his laboratory would take time, and time in television, as elsewhere, means money. On the other hand, doing the demonstrations in a nearby conference room would deprive the program of the "authenticity" of the laboratory and involve the added logistics of bringing all the experimental equipment to the conference room.

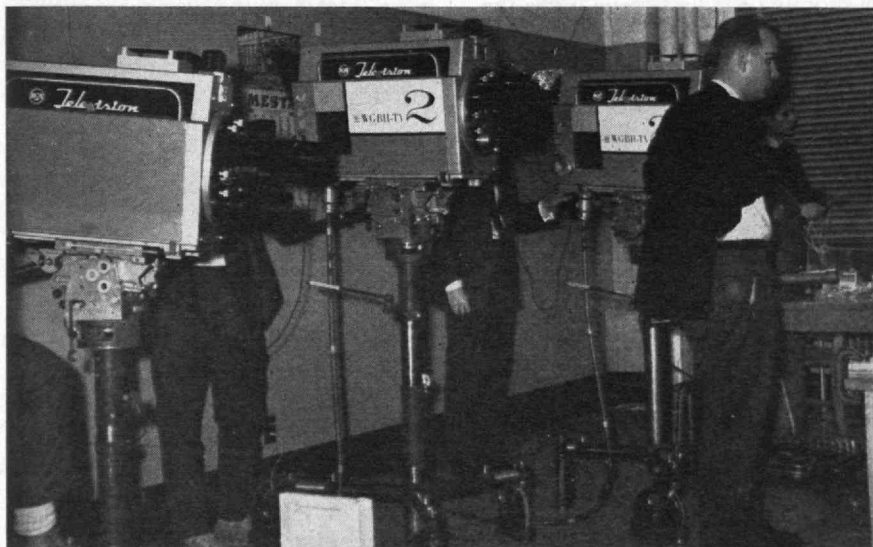
As such decisions are made, more members of the crew begin to join the survey. The assistant director must arrange for such seemingly inconsequential but vitally important details as parking the bus. Which police have jurisdiction over the area? Do they require a written permit? Will they set up barriers the night before? If power is to be drawn from the building rather than from the 30 KW generator aboard the



SCRIPT CONFERENCES determine the content of each week's program. Here, discussing lasers, are M.I.T.'s

Provost Charles Townes; Rush Morash, director; Carolyn Carr, producer; and John Fitch, '52, who will appear

on the program being planned, to introduce the guests and ask questions that might occur to a viewer.



THE CAMERAS feed a videotape recorder installed inside the bus (below) parked outside the scene of action. At

right are Mr. Fitch and Professor Perry Miles as seen during a demonstration of a laser. Copies of the master tape



made in the bus go to scores of stations, for showing a few weeks later. Photos are by Richard Wolfe.



bus, further arrangements must be made with Buildings and Power personnel.

The lighting director, meanwhile, must determine how much equipment he will require. Are there going to be outdoor scenes which may necessitate reflectors to balance the harsh contrast of sun and shadow? Will there be interior shots with windows in the background that must be covered with sheets of tinted plastic to cut down the glare? Where are the power outlets? What is their capacity, and who has the key to the circuit breakers?

The host usually joins the program preparations shortly before a working script is prepared, adding what he can in the way of suggestions to make things easier to explain. Would a reference to sound waves or radio waves be helpful in an explanation of coherent light? Does a proposed experiment involving interference patterns raise more questions than it answers? Does the material flow along in a logical manner, and are the questions those that a viewer might ask if he were there?

The Day for Action

Finally, the day for taping the program arrives. Crew call is generally at 7:30 A.M. The bus driver, however, picks up the venerable old bus, which saw more than a million miles of service on passenger runs before it was converted for television use, at 6:00 A.M. A passer-by, curious about the bus' windowless exterior, would find on looking inside that it is crammed from front to back with electronic equipment.

At the site, a safari of technicians gathers up this gear to thread their way to the location of the first scene. Trailing behind, they leave umbilical cords which connect each piece of equipment to the mother bus. Watching over all this is an engineering supervisor who, noting the progress being made, begins his countdown to "FAX," the TV term for "facilities"—the time when the director can start his on-camera rehearsals.

In the back of the bus, a video engineer and a recordist have the delicate job of lining up complicated and temperamental equipment—the cameras and the videotape recorder. Standards for NET are high because from a single mas-

ter tape at least a dozen perfect copies must be made later to be broadcast round robin by stations that are not linked by coax or microwave. Often a program winds up in a "hold" because sophisticated electronic devices refuse to co-operate.

While the equipment is being readied, the producer and host confer with the guests and make last-minute changes in the questions and answers. This process of refining the script continues right through the final shooting. There is nothing like the "moment of truth" to reveal flaws in the logical explanation of difficult concepts.

When the director is ready, the "talent," as the protagonists are called in the argot of TV, are summoned to the "set" for a "walk through." The host guides his guests from spot to spot in the area chosen for shooting the first scene while the director determines camera angles and selects those focal lengths which will provide him with the best close-up or long shot as the content dictates. The lighting director and his assistant shift and focus their spotlights as unexpected shadows crop up and must be eliminated. The audio engineer checks the slack in the microphone cables to be sure that the talent will not be suddenly brought up short at the end of cable-tows. And if radio mikes are to be used, someone must monitor the receivers to be sure that the VHF signals from the hip pocket transmitters don't fade into static going around a corner.

When FAX are available, the director begins his first camera rehearsal. As he moves from camera to camera, he tells each cameraman what shots he wants, starting and stopping the scene, backtracking and skipping forward until satisfied with the visual content of the program. The refining of the audible content continues apace, and more minor changes are made to ensure that each explanation is clear, each demonstration to the point.

The Countdown

When all concerned are reasonably sure of what is about to happen, the director calls for a dress rehearsal. Going out to the bus, he takes his place next to the switcher who punches up each selected camera on a monitor in front of him. The dress rehearsal usually reveals a number

of small problems which must be solved before the recording is made. As they are noted—a cable visible on the floor, a camera shadow moving unwanted through the scene, a detail of the demonstration apparatus obstructed from view—they are called out by those monitoring the screen and jotted down by the production assistant. A final huddle straightens out these matters.

With the cry "tape is rolling" from the recordist, the director announces "45 seconds to a take," allowing the electronics to settle down and lock into synchronism. The director's announcement is relayed by the floor director with the added command "all quiet on the floor." With 30 seconds to go, the switcher fades in a shot of a chalk board containing the identification data that will be needed later to piece together the various scenes. With 10 seconds to go, he fades to black as the tension mounts. Five seconds. And then, finally, the director calls for the first camera as the action begins.

With the completion of each scene, the producer and director make a quick decision as to the quality of the performance. If both are satisfied, they call for a tape check, a playback of random sections of the tape to be sure that the technical standards have been met. (This capability, incidentally, is one of the great advantages of tape over film.) If they are unhappy with the results or if the tape is unsatisfactory, word goes out along the cables to set the scene up from the top and everything is recorded again.

As each scene is finally accepted, its length is checked and the accumulated total used to determine whether the completed program will fall within the prescribed limit of 29 minutes plus or minus 10 seconds. The final scene to be shot (which is not necessarily the last one in the program, since it is sometimes necessary to shoot scenes out of sequence) must end within this narrow tolerance. If it comes off on time, if the director and producer are satisfied, and if the tape is good, the floor director flips off his headset with the shout, "It's a wrap!" The show is wrapped up. It then needs only editing together, and the crew begins immediately to undo what they began at the other end of a long, long day.

Our Manner of Speaking

The linguists are finding clues to our manipulation of symbols when we talk, which may help enable computers to understand us

BY SAMUEL JAY KEYSER

A POPULAR toy that has made the rounds recently is the talking doll. The child pulls a string in the doll's back and the doll says, "I love you" or "Tell me a story" or "Let's play a game." Its only shortcoming is that it can barely manage a handful of sentences. More lively speakers of English know—at least in principle—how to utter any of an infinite number of sentences. Human beings also know how to recognize—again in principle—any of an infinite number of sentences.

Every person who speaks English recognizes, for example, that "All men are mortal" is a sentence but the same words in the reverse order, "mortal are men all," are not a sentence. He can make a similar decision about nearly any arbitrary string of words, and tell almost instantly whether or not a certain word string is an English sentence.

In order to learn why it is that speakers of English, or of any language for that matter, can do these things, Professors Noam Chomsky and Morris Halle and their colleagues in the M.I.T. Department of Modern Languages and the Research Laboratory of Electronics have asked: Just what are people capable of doing when we say they can speak a language?

The answer these researchers have come up with is that the ability to speak a language is first and foremost the ability to manipulate symbols. The so-called "plural rule" in English is an example of this symbol-manipulating ability. Even three-year-olds know it, and it can be made into a game with them. An adult says "one chair" and the child replies "two chairs." Or the adult says "one cap" or "one bush" and the child replies "two caps" or "two bushes." The child's responses involve an orderly manipulation of symbols. Children master this manipulation which every speaker of English performs (otherwise he would not be a speaker of English).

The Plural Sounds

The regular plural in English is pronounced in three different ways: *z* as in *chairs*, *s* as in *caps* or *iz* as in *bushes*. Which of the three sounds the child chooses depends upon the last sound of the word to be pluralized.

Three kinds of sounds are used in English to form plurals:

1) The first is the "hissing and hushing" kind, sounds



A cartoon by Phil Interlandi in *Maclean's Magazine*

"It wasn't her, it was her blasted talking doll!"

like *s* as in *sip*, *sh* as in *ship*, *dg* as in *hedge*, *z* as in *fuzz*, and *ch* as in *church*.

2) The second is the "silent" kind of sounds, made without using the vocal chords, like the *p* in *pat*, the *t* in *tap*, the *k* in *cake*, the *th* in *fourth*, and the *f* in *cuff*.

3) The last kind is simply all the remaining sounds, like *l*, *r*, *m*, *n*, and so on.

What is the symbol manipulation that yields regular English plurals, the manipulation which even three-year-olds know?

It is this:

- If a word ends in a "hissing and hushing" sound, choose the *iz* plural;
- If the word ends in a "silent" sound, choose the *s* plural;
- Otherwise, choose the *z* plural.

This is the symbol manipulation that children perform both when they form regular English plurals and when they make mistakes and say things like "two childs" or "two oxes." They could not have simply memorized these erroneous plurals, precisely because they are not English and are therefore forms which children probably have never heard before. Where, then, do they come from? They come from the children's misuse of the plural manipulation, applying it indiscriminately to all English words. It is only when they have applied it to

words like "child" or "ox" or "sheep" that parents feel called upon to correct them.

That children do not simply memorize words and their plurals can be shown by making up words which children have certainly never heard before, words like *fash*, *swip*, or *frug*. When these words are introduced into the game, a child will usually reply without hesitation "two fashes" (with an *iz* plural because *sh* is a "hissing and hushing" sound), "two swips" (with an *s* plural because *p* is a "silent" sound) or "two frugs" (with a *z* plural because *g* is neither "hissing and hushing" nor "silent"). In other words a child is capable of performing the manipulation that yields English plural forms regardless of whether he has ever heard the word before upon which the manipulation must be performed. What he soon learns (and what all speakers of English must know) therefore, is the manipulation and not simply a list of words and their corresponding plural forms.

As Chomsky and Halle point out, the ability to perform the plural manipulation is by no means a simple thing. To make regular English plurals is to be able to analyze words into a final sound and the rest; then to classify the final sound, and finally, on the basis of this classification, to select the appropriate plural to go with the class to which the final sound belongs.

The Reflexive Rule

The manipulations which characterize the grammar of English operate at all levels of language. An example of symbol manipulation on the syntactic level is the "reflexive rule" in English, the manipulation which determines when speakers say "myself," "yourself," or "himself." How this works can best be seen by looking at a small group of sentences, some of which English speakers will accept as correct and some of which they will reject.

The sentences are:

- | | |
|-------------------------|-----------------------------|
| 1a. <i>I help me</i> | 1b. I help myself |
| 2a. I help you | 2b. <i>I help yourself</i> |
| 3a. I help him | 3b. <i>I help himself</i> |
| 4a. You help me | 4b. <i>You help myself</i> |
| 5a. <i>You help you</i> | 5b. You help yourself |
| 6a. You help him | 6b. <i>You help himself</i> |

Anyone can see straight off that the italicized sentences are "incorrect." But there is something systematic about the sentences. Sentence 1a, "I help me," is wrong, but its partner, sentence 1b, "I help myself," is not. All the other sentences are complementary, too. But while sentences 2a, 3a, 4a, 5b, and 6a are good sentences, their partners, sentences 2b, 3b, 4b, 5a, and 6b, are not. Behind this systematic distribution there is again an orderly manipulation of symbols, one which every speaker of English knows because he only uses the unitalicized sentences when he speaks, never the italicized ones.

► The symbol manipulation is this: Whenever a basic sentence has a pronoun for its subject and a pronoun for its object and whenever the subject and object pronouns refer to the same person, add the word *self* to the object of the sentence.

By this rule sentences like "I help me" and "You help you" are changed into the sentences "I help myself" and

"You help yourself" because in the first sentence "I" and "me" refer to the same person and similarly with "You" and "you" in the second sentence. On the other hand sentences like "I help you," "You help him," and so on, are not affected by the rule. In these sentences the pronouns refer to different persons.

As further evidence that people are actually performing this manipulation of symbols when they speak, the M.I.T. linguists point to another set of sentences:

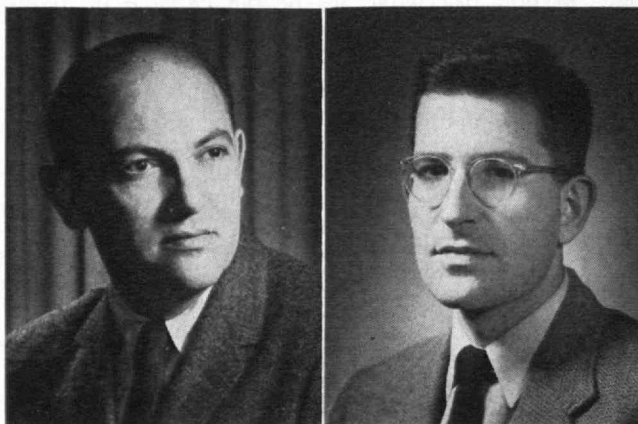
- | | |
|------------------|------------------------------|
| 7a. He helps me | 7b. <i>He helps myself</i> |
| 8a. He helps you | 8b. <i>He helps yourself</i> |
| 9a. He helps him | 9b. He helps himself |

The same systematic distribution is at work here. Sentence 7a, "He helps me," is correct while its partner, 7b, is not. The same is true of 8a and 8b. The rule seems to break down with 9a and 9b since both "He helps him" and "He helps himself" are correct. But the breakdown is more apparent than real since the reflexive rule actually explains why the sentence "He helps him" is always understood by speakers of English as containing a subject and an object which do not refer to the same person. Had the sentence "He helps him" been understood as containing a subject and an object which do refer to the same person, the speaker would have been forced to apply the reflexive rule, adding *self* to the object "him" and ending up with "He helps himself."

Implications in Computing

The significance of these manipulations is both practical and theoretical. Because they can be stated precisely, it is possible to program a computer to apply them. Once this has been done, a computer will have been endowed with the ability to recognize instructions imparted to it in perfectly ordinary English, thereby eliminating a necessity for highly specialized languages that intervene between a man and a computer.

In fact a great deal of work in doing just this has already been undertaken. Donald E. Walker of the Mitre Corporation, Associate Professor G. Hubert Matthews of M.I.T., and J. Bruce Fraser, G, have placed a sig-



The two Professors of Modern Languages at M.I.T. responsible for the research reported in part in this article are Morris Halle (left) and Noam A. Chomsky.

Dr. Keyser, the reporter, is also a linguist and has written for *The Review* on a great variety of topics. Now serving in the U.S. Air Force, his work keeps him in contact with many researchers at the Institute.

nificant portion of the grammar of English on a computer. The program generates perfectly good English sentences. The next step is to devise a procedure whereby the machine, when presented with any arbitrary string of English words, will be able to tell when they form a sentence and when they do not.

Once this is done, a computer will be able to act on instructions given to it in everyday English. This will pave the way for the computer to become as much a part of our daily experience as the automobile. Anyone who knows English (and how to type) will be able to communicate with it, whether he be seeking books in a library, legal precedents in a court, diagnoses in a hospital, or preparing his income tax at home.

But as striking as the practical implications of the work of M.I.T. linguists are, the theoretical implications are even more striking. That Chomsky, Halle, and their colleagues have succeeded in describing symbolic manipulations which yield sentences that match the sentences people actually say suggests a great deal about the formal structure of the human brain. It is there, after all, that the mechanism of language is localized, and the kinds of manipulations that Chomsky, Halle, and their colleagues have described must in a direct fashion reflect the kinds of manipulations the human brain is capable of performing. Moreover, these manipulations, or more specifically the ability to perform them, must be considered inherent, much like our ability to walk, or to see, or to feel. Unlike certain learned abilities such as the ability to cook, or to dance, this ability to manipulate symbols has never been taught us. The only possible explanation, then, is that we come by it naturally, i.e., that it is built in at birth. After all, even three-year-olds can perform the plural manipulation before anyone can have taught it to them. By the time they are five they will have mastered the reflexive manipulation too, without anyone having taught that to them. In this sense, then, linguistics at M.I.T. has laid the groundwork for a precise and profound formulation of one of the major functions of the human brain, a function whose significance cannot be overestimated in view of the central role that language plays in human thought.

WORDS CLASSIFIED ACCORDING TO THEIR PLURALS

<u>i</u> z	<u>s</u>	<u>z</u>
hedge: hedges	cup: cups	chair: chairs
church: churches	cat: cats	scale: scales
bus: busses	cake: cakes	cam: cams
fuse: fuses	fourth: fourths	ring: rings
bush: bushes	cuff: cuffs	cab: cabs
garage: garages		cog: cogs
		cove: coves
		key: keys
		clue: clues
		eye: eyes

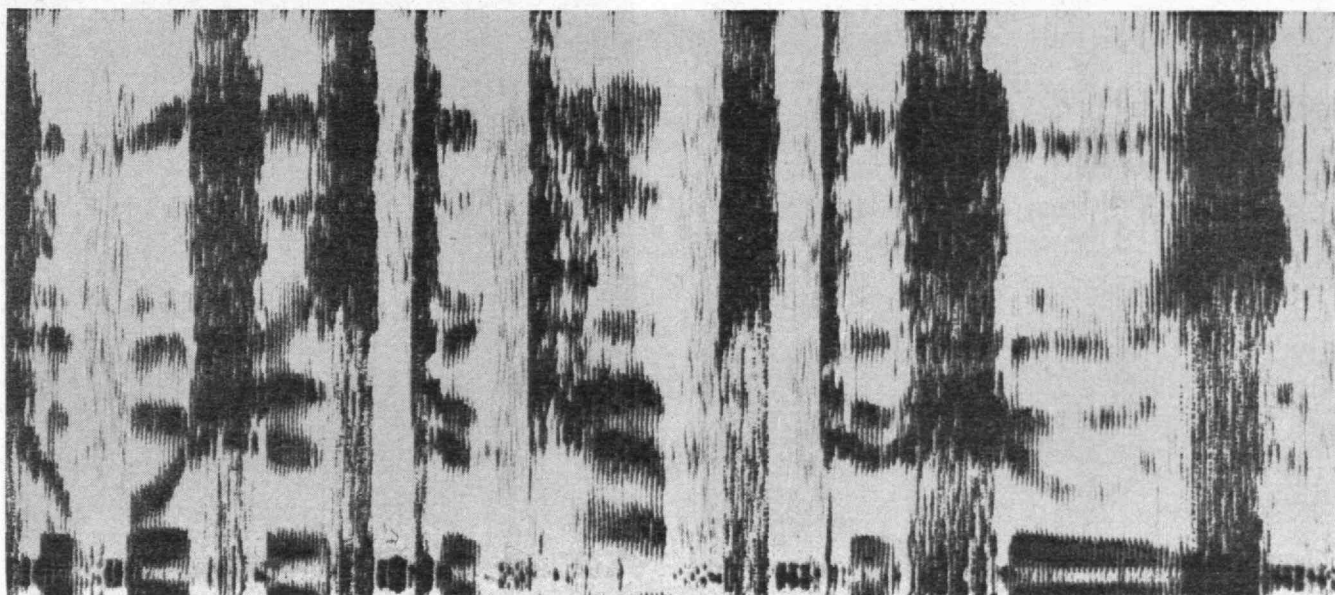
THE PLURAL RULE IN ENGLISH

<u>i</u> z	when the last sound of the word is "hissing and hushing"
<u>s</u>	when the last sound of the word is "silent"
<u>z</u>	when the last sound of the word is neither of the above

THE REFLEXIVE RULE IN ENGLISH

Pronoun ₁ + Verb + Pronoun ₂	require
Pronoun ₁ + Verb + Pronoun ₂ + self	
Condition: Pronoun ₁ and Pronoun ₂	refer to same Person

Applications of the plural rule in English, which is set forth above, are illustrated in the Sonagram below (from the Kay Electric Company in Pine Brook, N.J.).



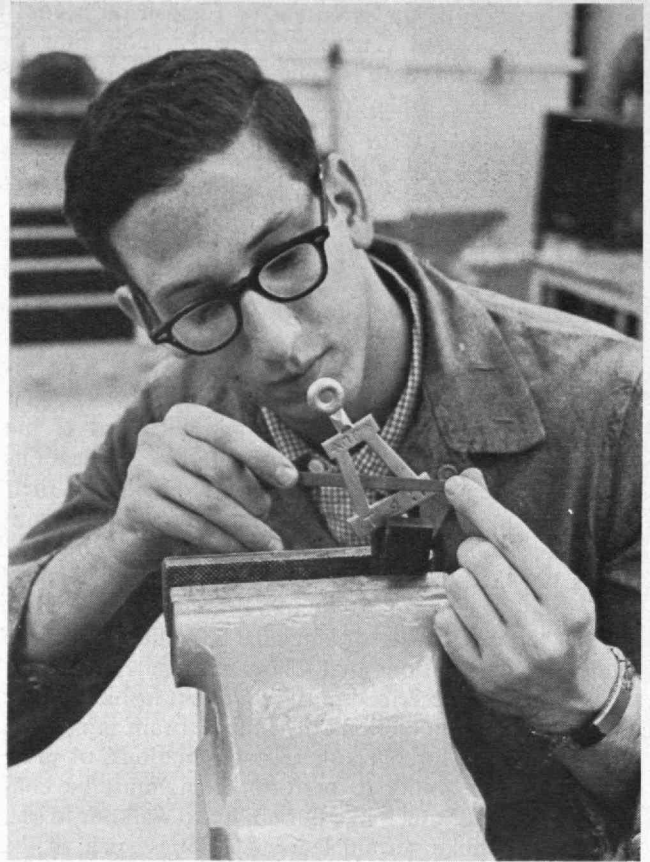
Two bushes two caps two shoes

You Should See The Hobby Shop

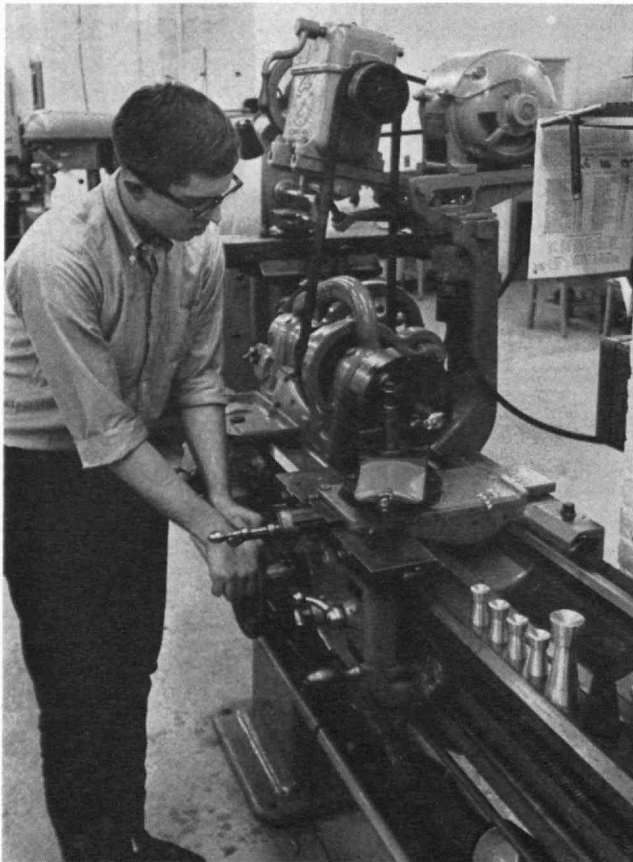
THE M.I.T. Hobby Shop—which gave birth to the Tech Model Railroaders, the Rocket Research Society, WTBS, and many other student activities—is in new quarters this year in the basement of the Armory. It has more tools and 1,000 more square feet of floor space. Its old things have been repainted and polished, and graduate students coming to M.I.T. from other schools now tell Foreman Robert McCadden that its facilities are the best in the country.

This, of course, doesn't satisfy McCadden, or the shop's users, or their adviser, John W. Sheetz, '42, Director of Development. They are planning now to add a paint-spraying section, ceramics equipment, a technical library, and a special place for fellows who want to work on watches, cameras, and other delicate things.

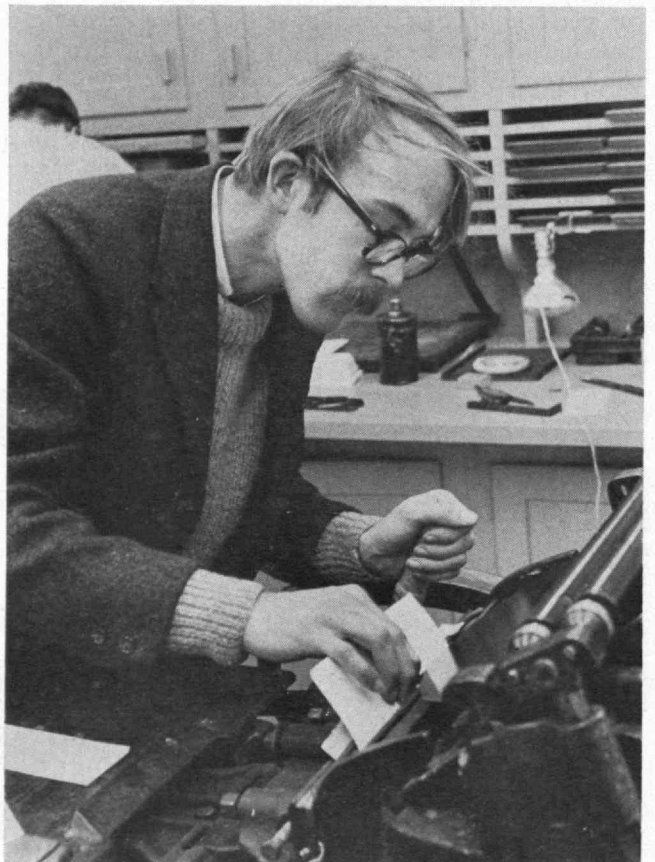
The new shop's grand opening in December drew out Vannevar Bush, '16, President Julius A. Stratton, '23, Deans Kenneth R. Wadleigh '43, and Robert J. Holden, Professors Benjamin L. Averbach, '47, Carvel Collins, and Edward S. Taylor, '24, and many other staunch friends.



STEPHEN L. BARON, '64, files the Tau Beta Pi key he will wear for initiation into the engineering society.



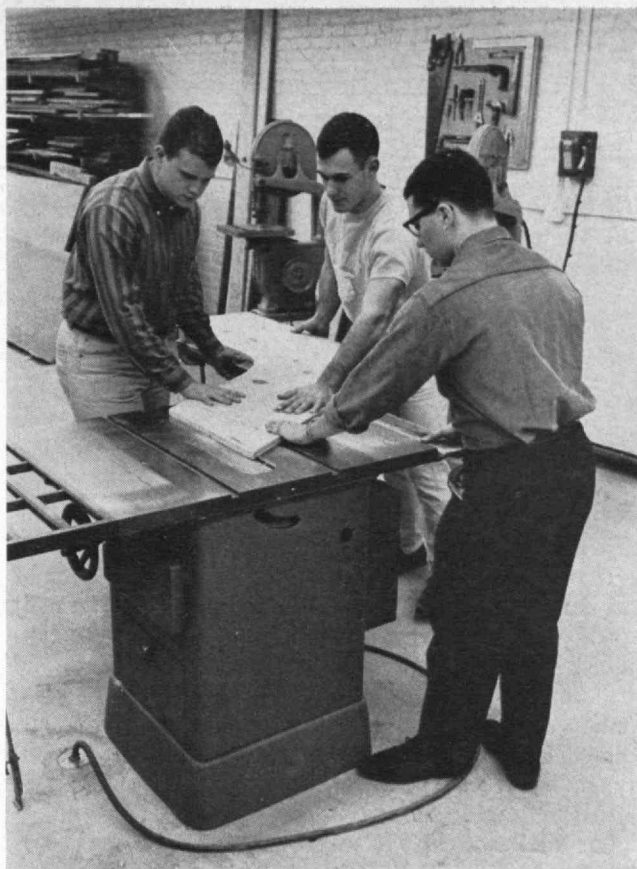
PETER R. KORNAFEL, '65, student foreman, adjusts a lathe to shape a set of abstract aluminum chessmen.



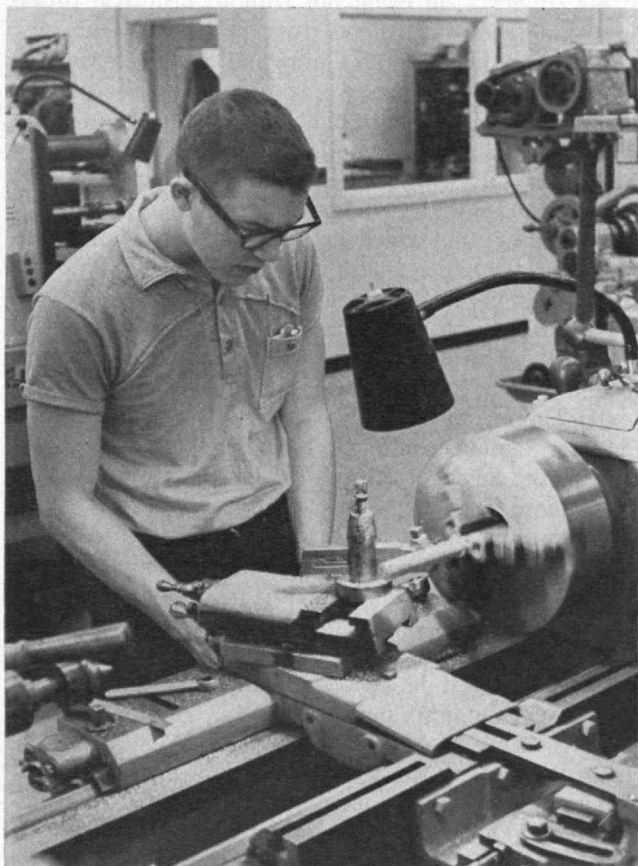
RALPH D. DOPMEYER, '59, uses a job press which once printed menus in the hotel that is now Grad House.



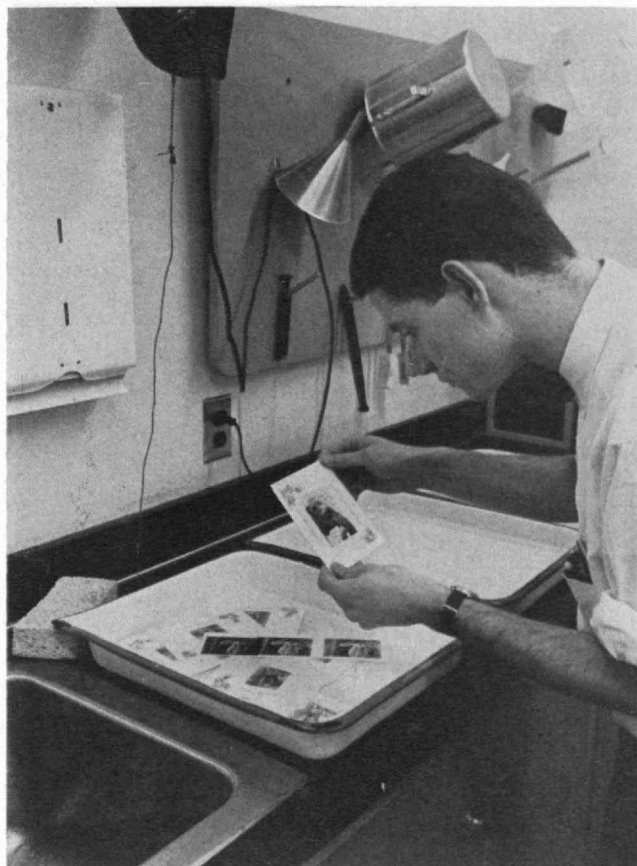
INDULIS (ANDY) SAULIETIS, '64, repairing a Martin guitar; folk music has inspired him to build three banjos.



THOMAS SOLTER, JAMES DARE, and **THOMAS NEWKIRK** (from left), all freshmen, use a new saw.



WILLIAM R. WEISGERBER, '65, spins a knob for his roommate's hi-fi set on a 16-inch Monarch lathe.



ALFRED H. BELLOWS, G, turns on a light to rinse and check the prints he has developed in the new darkroom.

New Books

COMMUNISM IN NORTH VIETNAM, Its Role in the Sino-Soviet Dispute, by P. J. Honey (*M.I.T. Press*, \$4.95).

Reviewed by Nelson C. Lees, '53

P. J. HONEY, a ranking authority on Vietnamese history, has written a lucid and eminently readable account of the communist regime in North Vietnam, its history, its aspirations, and—particularly—its role in the Sino-Soviet dispute. This is the first full report on that enigmatic 10-year-old Communist state which, says Honey, is the least known country of the communist bloc.

Two things are particularly impressive about Honey's account: One is his cogent summary of the take-over of North Vietnam by the numerically insignificant Communist Party, under the leadership of Ho Chi Minh, and of the party's power structure. The other is his detailed analysis of Ho Chi Minh's agile, placating, and ambiguous political maneuvering to maintain his country's autonomy and yet receive desperately needed aid from the two increasingly hostile major Communist powers.

The first step in the take-over, Honey writes, was Ho Chi Minh's deliberate provocation of American and Chinese involvement during the resistance war against France. This was done with callous disregard for the

sufferings of his own people. Then, by assuring that Chinese supplies went only to Vietnamese Communists, Ho Chi Minh and his party rapidly seized control of the nationalist movement. "As in most Communist states," Honey reports, "the vast majority of the people in North Vietnam have not approved the doctrine of communism and still do not approve of it."

The partition of the country by the Geneva agreements of 1954, which the victorious North Vietnam Communists regarded as almost a defeat, brought severe problems. One was a constant threat of famine in mountainous North Vietnam because the supply of rice, largely produced in South Vietnam, was cut off.

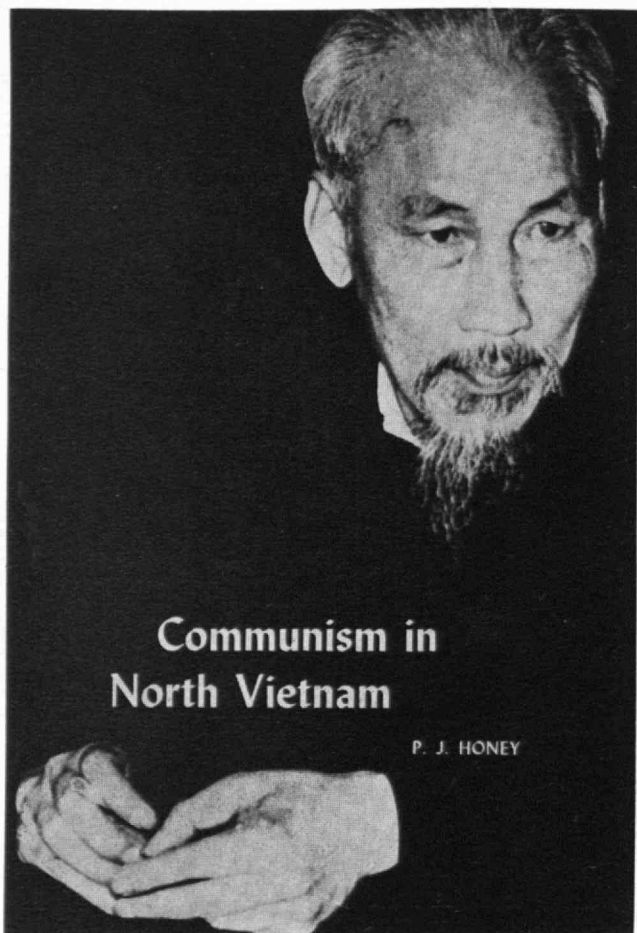
Honey writes that Ho Chi Minh, as Head of State and Chairman of the Lao Dong Party, is and has long been the source of all authority in North Vietnam. Viewed from outside, he continues, "North Vietnam presents the appearance of a state endowed with a stable and experienced government, Communist-led of course, and not overfond of holding elections, but one in which non-Communists occupy many top positions and seem to work amicably alongside their party colleagues. It is a carefully contrived public image and one which deceives the casual observer, but closer study reveals that the Lao Dong Party members, and only they, have an effective voice in national affairs. The non-Communist ministers, directors, and chiefs, for all their exalted designations, are powerless to do anything except carry out the directives of the party."

Ho Chi Minh's biggest challenge was the need to avoid irrevocable commitment to either the Soviets or China, not only to maintain the supplies of aid from both, but also to try to prevent Chinese annexation or domination of his country—an event not without historical precedent. Ambiguous statements from the North Vietnamese appeared to support both China and Russia, but as the differences between the two became more sharply defined, it was increasingly difficult to maintain an effectively conciliatory and moderate stance. "They found themselves driven to seeking solutions which were not always ideal for their own immediate internal problems," Honey writes, "but which were calculated to avoid causing offense to either China or the Soviet Union."

After just barely surviving the Sino-Indian and Soviet-Cuban crises with her neutrality intact, North Vietnam was finally confronted by the recent treaty to end above-ground nuclear testing. This was strongly backed by the Soviet Union, and equally strongly repudiated by the Chinese. Signing would, in effect, be a public commitment to the Soviets; refusing to sign, a commitment to the Chinese. Ho Chi Minh elected not to sign.

Honey now thinks it altogether possible that Soviet technicians will be withdrawn, bringing industrial development to a standstill. Late in 1963 a disastrously bad rice harvest was followed by unsuccessful overtures by Ho Chi Minh to the late Ngo Dinh Diem offering very generous terms if he would demand the departure of United States military personnel and declare South Vietnam a neutral state, thus making rice available to the north. Writing in October, 1963, Honey concluded that the situation, both economic and international, "has deteriorated to a very marked degree. There is still no sign that President Ho Chi Minh has found any way out from a position that can justly be described as desperate."

(Book News is concluded on page 34)



François Matthes, '95

And the Marks of Time

The Sierra Club in California publishes his essays again and recalls his remarkable surveys

BY J. J. ROWLANDS

THE AUTUMN of 1891 was well advanced and the Class of 1895 was in full stride when François and Gerard Matthes arrived at M.I.T.'s Rogers Building and calmly applied for admission. Freshmen of this generation may marvel at their audacity. They were twins, only 17 years old, and had just arrived from Holland.

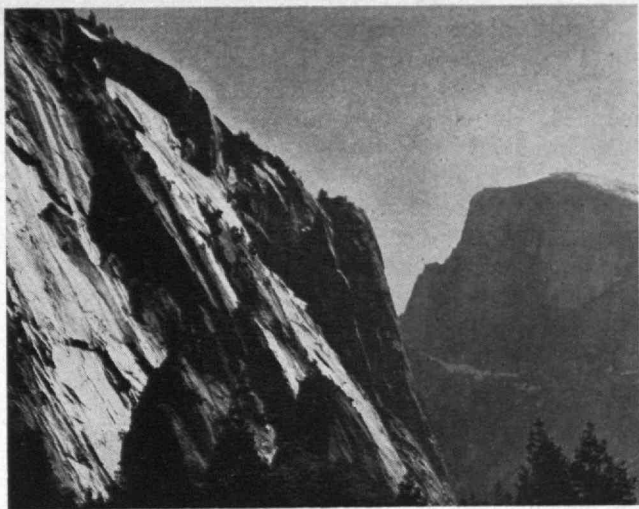
President Francis A. Walker was surprised to discover that, except for a weakness in American history, their qualifications exceeded M.I.T.'s requirements for entrance. He admitted them and kept close watch on their progress. They had prepared for an engineering education at Frankfurt, Germany, and their father had insisted that they learn English.

Before the end of their freshman year the Matthes boys were speaking before the Institute's Civil Engineering Society and other technical groups on engineering projects and methods in Europe. The Class of 1895, for instance, was given detailed descriptions of the great Zuider Zee drainage project. They also had shown such skill as draftsmen that they were advised to concentrate on a geodetic course which would prepare them for positions in the United States Coast and Geodetic Survey.

When they were graduated with the blessing of General Walker, who had become their warm friend and counselor, Gerard became a hydrographic engineer and François an instrument man on the staff of the city engineer of Rutland, Vt. A year later, when both brothers became U.S. citizens, François joined the U.S. Coast and Geodetic Survey and began a half century of outstanding contributions to geology.

François Matthes' work in the mountains of the West is recalled with affection and precision by Professor Fritiof Fryxell, Professor of Geology at Augustana College in Rock Island, Ill., in *François Matthes and the Marks of Time*, published recently by the Sierra Club of San Francisco.* This club was founded by John Muir and is dedicated to the study and protection of national scenic resources, particularly in the mountain regions. Professor Fryxell's book follows the young engineer's progress from the time he was appointed an assistant in the U.S. Geodetic Survey in Indian Territory, then part of Oklahoma, to the end of his notable career. It also includes 15 of Matthes' now famous essays.

* The Sierra Club's address is Mills Tower, San Francisco 4; and the book's price is \$7.50.



A photograph of Yosemite's Royal Arches and Half Dome, by Ansel Adams, from the book about François Matthes.

Matthes' first assignment in 1898 was to survey the Cloud Peak quadrangle in Wyoming. His skill in mapping mountain areas soon became apparent. His contributions as a topographer came not only from his mastery of technical principles and his extraordinary skill in drawing, but also from his penetrating analysis of land forms and his profound interest in them.

One of his first important surveys was to establish the contour lines of the Bighorn Mountains, taking into consideration varied patterns of landscape and alpine glaciation. As a result of this field work he wrote a paper in 1899 on "Glacial Sculpture of the Bighorn Mountains, Wyoming." It was his first scientific publication and is to this day a classic reference. He coined the term "nivation" to describe the geomorphic processes represented by land forms sculptured by glaciers, and other effects produced by persistent snow fields.

Although a man of small stature he was ruggedly built, and a skilled horseman and packer. He soon undertook a hydrographic study of the Blackfoot Indian Reservation in Montana, and reconnaissance projects from Montana to Arizona. His work was done with great precision long before the era of aerial photography. Much of his success may be attributed, Professor Fryxell notes, to his long pack trips in the wilderness.

In the winter of 1902 Matthes was ordered to begin mapping the upper half of the Grand Canyon of the Colorado River in Arizona. The area included some 500 square miles of rugged, complex country traversed by a mile-deep chasm that was then considered impassable. It was a scantily inhabited region in which pure water was scarce and where trails had to be created. Traveling presented staggering obstacles, and the mapping was done by means of the plane table. This assignment, in Matthes' words, was "an extreme test of the efficiency of that instrument."

Working against time, Matthes' party crossed the canyon to the north rim and began the survey from the high plateaus. Toiling from dawn to dark, the mapping was finally completed and the party descended a treacherous trail into Bright Angel Canyon in a race against swiftly approaching winter. The route was virtually the same as the one followed today by tourists who cross the Grand Canyon on the Kaibab Trail.

Matthes had returned to Cambridge and was working for a master's degree in geomorphology at Harvard when word came that the Yosemite Valley was to be mapped. He chose the Yosemite assignment rather than an advanced degree, and left at once to set up a camp on the valley floor. Whereas the Grand Canyon task was a survey of angles and points, the Valley posed a problem of curves and arches which he found a magnificent challenge.

At Berkeley, Calif., in the spring of 1906, while assisting in a study of the movement of sediment in rivers, Matthes watched the destruction of San Francisco by the great earthquake. Later he was assigned to map the San Andreas rift and make a detailed map of the rift at Fort Ross, Sonoma County. His last major field assignment for the Survey was the mapping of the national park at Mt. Rainier in Washington. But his interest in topographic mapping never diminished and as time went on he wrote delightful essays which were published on the reverse sides of his maps.

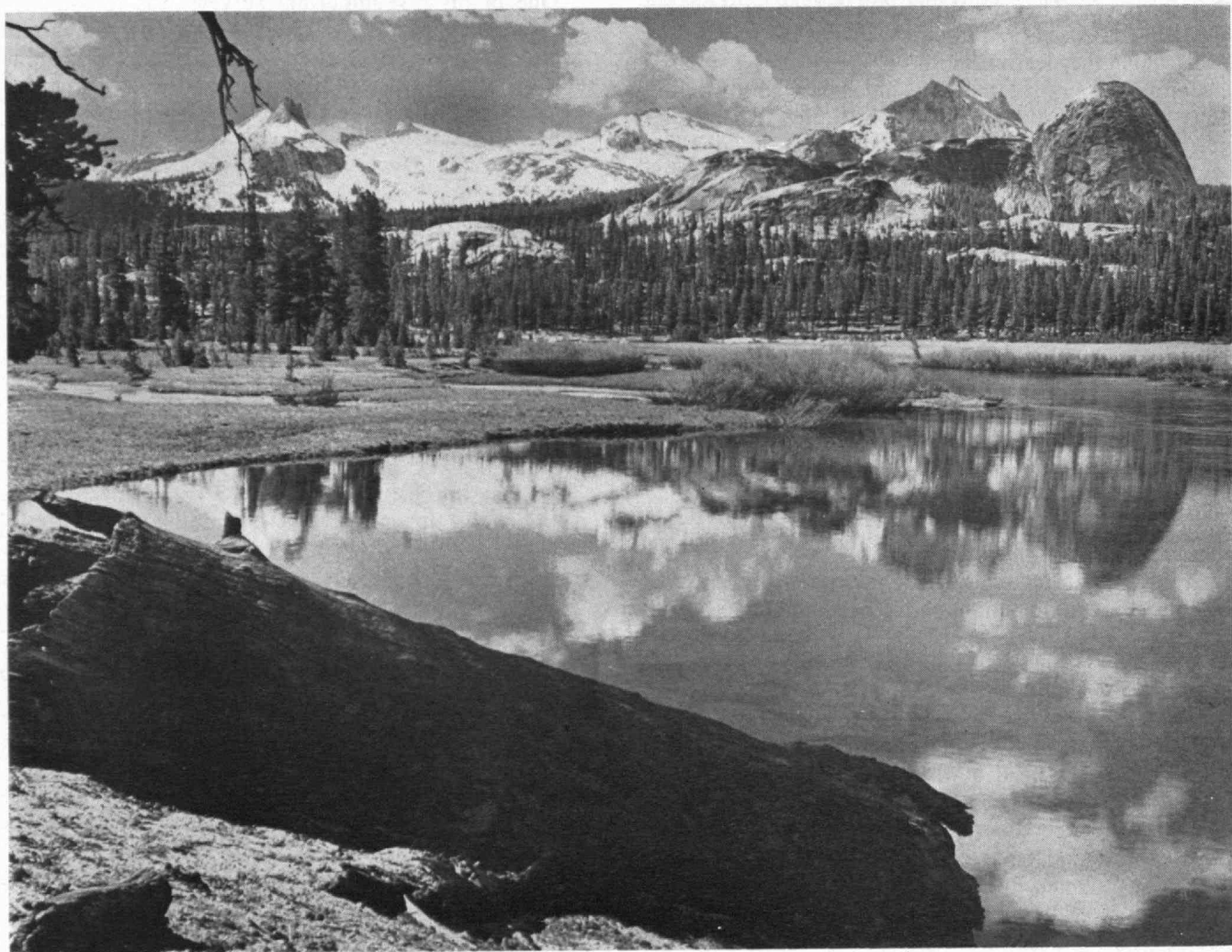
It was in the autumn of 1930 that his paper on the "Geologic History of Yosemite Valley" was published. Known to a great many laymen as Professional Paper 160, this history of "The Incomparable Valley" became the most widely known of Matthes' publications. He was one of the first to minimize the use of "scientific jargon" to encourage the interest of laymen in technical

papers. Copies of Professional Paper 160 now are collectors' treasures.

Heavy demands on the Geological Survey during the war brought so many problems that Matthes continued in its service beyond the statutory age of retirement at 70 years. He finally retired in 1947, and he and his wife went at once to a home in El Cerrito, Calif. No sooner had he begun the more tranquil pursuits of a permanent home, however, than he was asked to plan the program of the Committee on Snow and Glaciers for the International Scientific Congress which was soon to open at Oslo. This was a task which was never to be completed, for he died after a heart attack in 1948.

Many honors had come to Matthes during his life. He was president of the Geological Society of Washington and the American Association of Geographers; King Albert of Belgium in 1920 made him a Chevalier of the Order of Leopold II; and in 1931 he was awarded the Order of the Silver Beaver by the Council of Boy Scouts of America for "distinguished service to boyhood." The latter was his most cherished honor.

Professor Fryxell's record of the life of François Matthes is an excellent introduction to essays most of which Matthes wrote originally for the *Bulletin of the Sierra Club*. The book also contains an appropriate appendix on the major divisions of geologic time in use by the United States Geological Survey.



A photograph of the Tuolumne Meadows in Yosemite, by Cedric Wright, in the Sierra Club of San Francisco's book.

Language Requirement For M.I.T. Doctorates

BY HAROLD L. HAZEN, '24

Dean of the Graduate School

DESPITE increasing availability of translations of scientific and engineering literature published in foreign languages, there is no substitute for direct personal access to this literature by the individual research worker. Study of foreign languages therefore remains an essential preparation for or part of the study for the doctorate at M.I.T. A recent study of our foreign language requirement by the Committee on Graduate School Policy has confirmed the continuing validity of this requirement and has led to a new alternative for meeting it.

Perspective on our M.I.T. situation is provided by a national view. In his classic study *Graduate Education in the United States*, Bernard Berelson starts his discussion of "The Foreign Language Requirement" for the Ph.D. with the disquieting observation that "Somewhere in this country today, any day, another faculty committee is drawing up another report on the foreign language requirement for the doctorate." As evidence of the anomalies found here, he cites "strong" agreement by about three quarters each of the graduate deans, graduate faculty, and recent doctorate recipients, with the proposition that "the foreign language requirement at the doctoral level has come to be a form without much substance in a sizeable proportion of cases."

Yet, recent recipients report use of their foreign language in preparing their dissertations or in subsequent professional work by the following sample percentages: chemistry, 85 per cent; mathematics, 75 per cent; music, 74 per cent; physics, 62 per cent; engineering, 54 per cent; political science, 52 per cent; psychology, 17 per cent; education, 10 per cent. In general terms, use is high in sciences and humanities, lower in social sciences and education. Country-wide the diversity in judgment as to the value of high institutional standards for doctoral foreign language is greater than that concerning almost all other aspects of doctoral work.

Perhaps M.I.T. benefits by having most of its work either scientific in nature or influenced by a scientific environment, but for whatever reason, its Graduate Committee, reflecting departmental evaluation, showed a strong consensus concerning the value of a working competence in foreign language as a utilitarian professional tool. This consensus appears to be influenced in considerable measure by the success of the one-term courses developed intensively by Professor William Locke over the past 18 years whose one objective is the development of the ability to read and translate accurately into English the professional literature in the student's special field. Such courses are offered in French, German, and Russian. Our doctorate has required such reading ability in two foreign languages acceptable to the student's department and containing important literature in his special field.

In the spring of 1963 after careful study, the Com-

mittee on Graduate School Policy added as an alternate requirement "substantial competence" in speaking and reading *one* modern foreign language. Demonstration of "substantial competence" involves the following steps:

- Passing the written professional-field reading examination with a Grade of A, to establish eligibility for:
- Demonstrating ability to discuss in conversation (though not necessarily in fully colloquial style) in the foreign language the ideas obtained from listening to a sample of lecture material in this foreign language in his field, and
- Demonstrating competence in casual conversation in the language.

In addition if a student's native language is other than English, he must demonstrate competence in speaking and reading English. "Competence" in satisfying these language requirements is determined by examination by the Modern Language Department.

The Graduate Committee now feels that its language requirements and standards need no apology. Berelson indicates a national trend toward acceptance of the "professional tool" role of the foreign language requirement as legitimate educationally. We feel that we are meeting the requirements of this "professional tool" role unusually well. By our one-language "substantial competence" alternative we recognize foreign language in its role as a mark of the educated man. Perhaps most important to M.I.T. is the Faculty consensus, evident in its Graduate Committee representation, that we have a meaningful as well as a liberal foreign language requirement of high standard.

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ROBERT C. COPELAND, '57G, *Vice President*

Institute Yesteryears

As recalled by the late H. E. Lobdell, '17

25 Years Ago

"OCCUPYING only about a tenth of the space demanded by its predecessor designed two years ago for the Huntington Memorial Hospital, a new high-potential electrostatic x-ray generator has been built in the Department of Electrical Engineering," The Review announced.

Its predecessor, "the first electrostatic x-ray generator ever built for therapeutic uses . . . has been employed in more than 600 treatment series, totaling about 9,000 individual treatments, for the combating of cancer. Such treatments are far less expensive and much more easily available than radium . . .

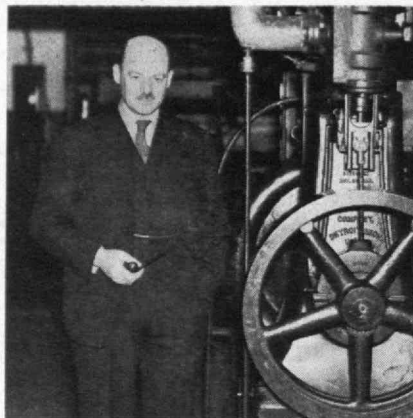
"The new generator, which operates at 1,250,000 volts, as compared with 1,000,000 volts for the Huntington generator, is much smaller. . . . The whole apparatus is less than three feet in diameter and less than nine feet in height. . . ."

► Alumni recently elected to offices by national societies included: *William S. Newell*, '99, and *Emory S. Land*, '07, as Vice-presidents of the Society of Naval Architects and Marine Engineers; *Samuel C. Lind*, '02, as President-elect for 1940 of the American Chemical Society; *Chester L. Dawes*, '09, as Vice-president of the American Institute of Electrical Engineers; *Rufus E. Zimmerman*, '11, as Vice-president of the American Standards Association; *H. B. Richmond*, '14, as Vice-chairman of the Scientific Apparatus Makers of America; and *Chester L. Kingsbury*, '18, as President of the Toy Manufacturers of America, Inc.

► *Jerome C. Hunsaker*, '12, and *Vannevar Bush*, '16, were appointed by President Roosevelt to the National Advisory Committee for Aeronautics, of which body *Edward P. Warner*, '17, had been a serving member since 1929.

50 Years Ago

SECRETARY DANIELS of the Navy Department detailed Assistant Na-



Jerome C. Hunsaker, '12

val Constructor *Jerome C. Hunsaker*, '12, for work at the Institute in developing instruction in aerodynamics. The Review's account continued:

"The purpose of the courses will be to establish systematic instruction in the theory and design in aeroplanes. The backwardness of this country compared with those of Europe is notable, and Dr. MacLaurin wishes Technology to be the leader, and to take the first large steps, as it has already taken some smaller ones, towards placing the study of the aeroplane among engineering accomplishments, for up to the present time the development of the flying machine has been by the 'cut and try' method."

75 Years Ago

"IT WAS a pleasant scene in Rogers Corridor on the morning when the second term began," wrote the "Lounger" in *The Tech*. "Yet though the crowd that gathered there was on the whole a jolly one, there were exceptions. Some, with gloomy faces, glowered from corners, or stalked moodily among the crowd to find a brother malcontent, and swear with him vows of dire vengeance against some villainous instructor, and here and there whole courses gathered for that fell purpose.

"But these were the exceptions, not the rule, and the oft-repeated question, 'How did you come

through?' was more times answered cheerily than despondently. Such exclamations as 'Good for you, old man!' and 'By Jove, that's good!' filled the air; and the despondent ones were almost overlooked in the general content. . . .

"Bad fortune, as well as good, must be met and borne; success is to him who struggles best, and the consolation remains that, in spite of the adage that 'Misfortunes never come singly,' one F, or even a double F, does not necessarily bring others in its train."

► Less philosophical than the "Lounger," the Editor-in-Chief of *The Tech* was righteously indignant. "There is going on at the Institute all the time what appears to be a species of unfair discrimination," he wrote. "We do not think we are mistaking the facts when we say that the Faculty, or rather individual members of it, regard with suspicion any man who is prominent in athletics; and to a less degree all men, who are more or less prominent here, fall under this ban.

"If a man plays foot-ball he generally finds that he is required to get higher marks than other men to get a pass and to keep up with the class, and even then he does not feel at ease as to his professor's estimate of him. . . .

"Granting it be true that a man would spend more time on his studies if he were not on the foot-ball team, it seems to us unfair to mark him harder than the rest . . ."

100 Years Ago

AT THE 17th Meeting of the "Government," held February 10, 1864, Joseph S. Fay "made inquiry as to the condition of the Institute's finances." Edward H. Eldredge, of the Finance Committee, "stated that about \$120,000 had been raised, which would be needed for the Building, and that there was no money in the Treasury unappropriated.

"Mr. Fay observed that as means would certainly be needed to meet current expenses he would move that an annual assessment of Five Dollars be levied on the [Associate] Members, and that the initiation fee be raised to Five Dollars."

Such action was taken at the 18th Meeting of the "Government."



NEW HIGHS, NEW LOWS— Neurosis!

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New highs for some; new lows for others—on the
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Why Will Old Tech Win and Score So Well?

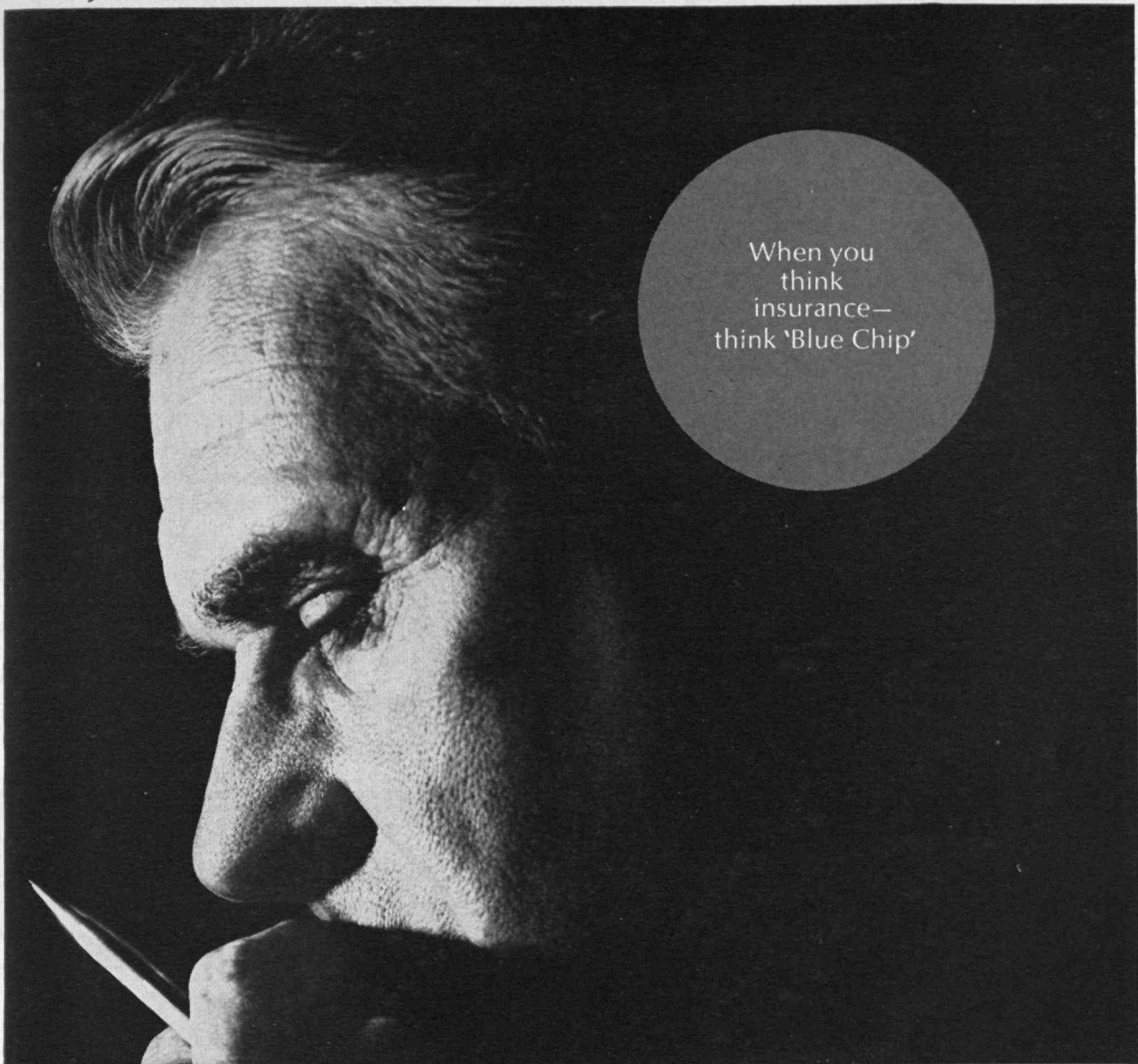


COED CHEERLEADERS and a Pep Band made M.I.T.'s basketball season different this year. In action above are (from left) Janine Knauf '67, Sharon Cutler, '65, Sue Colodny, '65, and Susan Hemley, '66. Not pictured are Kathy Frazer, '67, Carlyn Voss, '67—and Barbara Desmond '67, who leads the cheers and acts as coach. The girls' squad was organized last spring by Miss Colodny, Jim Allen, '64, President of the Athletic Association, and Don Alusic, '64, representing the Basketball Team.

Student musicians (below), playing mostly brass instruments, add to the mushrooming M.I.T. school spirit which has brought record crowds to Rockwell Cage.

The freshmen prevailed at the Sixty-First Annual Field Day (lower left) last November, and triumphant classmates carried their President, Dick Chandler, from a muddy Briggs Field.





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Individuals Noteworthy

(Concluded from page 6)

Irénée du Pont: 1876-1963

ONE of the Institute's most noted Alumni, Irénée du Pont, '97, died in Wilmington in December. He was president of E. I. du Pont de Nemours & Company, from 1919 to 1926, when rayon and cellophane were developed, and with his brothers was largely responsible for the company's great growth.

Mr. Du Pont was a founder member of the Research Associates of M.I.T. in 1935 and one of the largest contributors to the fund which made possible the Karl Taylor Compton Laboratories.

Wallace Ross: 1885-1963

THE TECHNOLOGY Christian Association's General Secretary from 1919 to 1953, Wallace M. Ross, died in Cambridge last December. He had served also as secretary of the association's advisory board from 1953 to 1956, and as financial secretary of the Student Christian Movement of New England. He was an honorary alumnus of M.I.T.

New Posts

NAMED in the news of promotions, elections, and appointments recently were:

William S. La Londe, Jr., '23, as Vice-president, Zone I, American Society of Civil Engineers . . . *Finlay G. Cameron*, '25, as Vice-president, Lincoln, Ill., Division, Central Illinois Electric and Gas Company . . . *William P. Lowell, Jr.*, '26, as Vice-president, Illuminating Engineering Society;

Edward H. Wells, Jr., '27, as General Manager, Packings and Friction Materials Division, Johns-Manville Corporation . . . *David Ingle, Jr.*, '28, as a Director, National City Bank, Evansville, Ind. . . *John A. Russell*, '28, as Dean of Architecture, University of Manitoba;

Wheaton W. Kraft, '29, as a Director, American Institute of Chemical Engineers . . . *Claude F. Machen*, '31, as President, Boston Gas Company . . . *Philip A. Coleman*, '33, as President, Bristol Brass Company;

Donald R. Erb, '40, as Vice-president of Engineering, Instron Engineering Corporation . . . *Adolph L. Sebell*, '40, as Vice-president, Syra-

cuse Ornamental Company . . . *Edwin H. Seim*, '40, as Vice-president, Manufacturing, Westinghouse Electric Corporation;

Alvin H. Hartman, '41, as a Member, Board of Governors, National Association of Small Business Investment Companies . . . *Frank E. Briber, Jr.*, '43, and *A. Joseph Messtier, Jr.*, '43, respectively, as Managers, Process Equipment and Systems Division; and of the Electrical Apparatus and Systems Division, Allis-Chalmers;

Corwin H. Brumley, '44, as Assistant Vice-president, Bausch & Lomb, Inc. . . . *Russell H. Hedgecock*, '44, as Vice-president and General Manager, Converter Corporation . . . *Walter H. O'Connell, Jr.*, '45, as Vice-president—Manufacturing, Baldwin-Ehret-Hill, Inc.;

Thomas H. Martzloff, '49, as Vice-president—Corporate Development, Holt, Rinehart and Winston, Inc. . . . *James M. Shepherd*, '51, as Assistant Comptroller, Systems and Procedures, National Distillers and Chemical Corporation . . . *George Krauss, Jr.*, '58, as Assistant Professor, Lehigh University.

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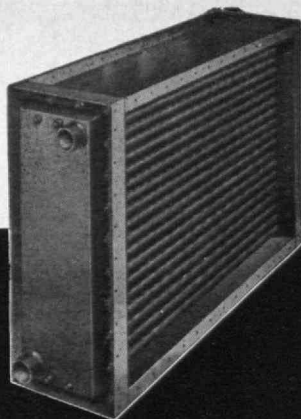
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For the 425-hp 409 we add all those lovingly machined, cast and forged items above. Twin 4-barrel carburetors. Impact-extruded pistons. Forged steel connecting rods and five-main-bearing crankshaft. Cast alloy iron camshaft. And two heads fitted with lightweight valves. Mechanical valve lifters. Along with things we didn't show—header-type exhaust manifolds, dual exhausts, special clutch and heavy-duty radiator and suspension, among others. For the tamer 340- and 400-hp 409's, we use tamer bits and pieces here and there.

You can tuck a 425-hp Turbo-Fire 409 V8 into any '64 Chevrolet Biscayne, Bel Air, Impala or Impala Super Sport. And choose low gear ratios of 2.56:1 or 2.20:1 with the 4-speed all-synchro shift*. With the 2.20:1 gear ratio you can get 4.11:1 or 4.56:1 Positraction High Performance axle ratios*. Isn't playing with blocks fun?... Chevrolet Division of General Motors, Detroit, Michigan.

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New Books

(Concluded from page 24)

THE HISTORIAN AND THE CITY, Edited by Oscar Handlin and John E. Burchard, '23 (*The M.I.T. Press*, \$7.50).

Reviewed by J. Samuel Jones,
Assistant to the Director of Student Aid at M.I.T.

THIS is a volume of conference papers that is not really a book because it has no beginning, no middle, and not really any end. The papers were produced by men searching for an interdisciplinary approach to the study of the city under the auspices of the M.I.T.-Harvard Joint Center for Urban Studies. Their chairmen were Professor Handlin of Harvard and Dean Burchard of M.I.T., and their conference must have been lively because nearly every paper advances a position while criticizing at least one of its neighbors. No one quite agrees what a city is, and some are not sure a definition is possible. Not surprisingly, the craft to which each man belongs tends to condition his definition, or, his approach. But nearly everyone agrees on one rather startling proposition: The historian has neglected the city. Furthermore, he has scarcely suggested the relevant categories and methods for studies of it.

Mainly for Specialists

RECENT PUBLICATIONS of particular interest to some M.I.T. Alumni have included:

The Cause of the Great Ice Ages, by Karl A. Pauly, '96, of Schenectady, N.Y. (privately printed).

Growth of a New Product, Effects of Capacity-Acquisition Policies, by Ole C. Nord, '62, a research assistant in M.I.T.'s School of Industrial Management (M.I.T. Press, \$5).

Interaction of Plane-Parallel Double Layers, by Philip L. de Bruyn, '52, Professor of Mineral Engineering at M.I.T., and Owen F. Devereux, '59 (M.I.T. Press, \$12.50).

Introduction to Chemical Physics, by John C. Slater, Institute Professor and Harry B. Higgins Professor of the Solid State at M.I.T. (McGraw-Hill Book Company, Inc., \$3.95).

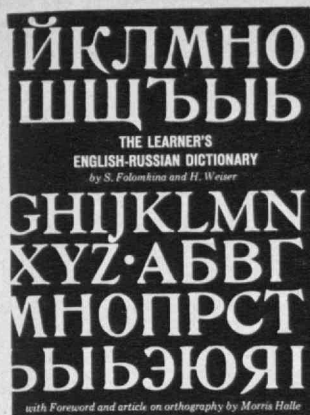
Lectures in Theoretical Physics, Volume V, edited by Wesley E. Brittin, B. W. Downs, and Joanne Downs, with a contribution by Lawrence C. Biedenharn, Jr., '44 (John Wiley & Sons, Inc., \$12).

Man, Science, Learning and Education, The Semicentennial Lectures at Rice University, edited by S. W. Higginbotham, with a contribution by Claude E. Shannon, '40, Donner Professor of Science at M.I.T. (William Marsh Rice University, \$5).

Network Analysis and Synthesis, by Louis Weinberg, '51, Vice-president—Information Processing, Conduction Corporation, Ann Arbor, Mich. (McGraw-Hill Book Company, Inc., \$19.50).

Organic Reactions, Volume XIII, edited by Arthur C. Cope, Head of the M.I.T. Department of Chemistry (John Wiley & Sons, Inc., \$12.50).

Progress in Fast Neutron Physics, edited by Gerald C. Phillips, Jerry B. Marion, and Jacob R. Risser, with contributions by Alexander S. Langsdorf, Jr., '37, and Harvey B. Willard, '48 (Univ. of Chicago Press, \$8.50).



"The Learner's English-Russian Dictionary" and "The Learner's Russian-English Dictionary," by S. Folomkina and H. Weiser; each volume including a foreword by Professor Morris Halle (M.I.T. Press, \$5 each).

Progress in Inorganic Chemistry, Volume V, edited by F. Albert Cotton, Professor of Chemistry at M.I.T. (John Wiley & Sons, Inc., \$14).

Quantum Theory of Solids, by Charles Kittel, '38, Professor of Physics at the University of California, Berkeley (John Wiley & Sons, Inc., \$13.50).

Taxation and Economic Development in Tropical Africa (based on lectures sponsored by Harvard Law School International Program in Taxation and M.I.T. School of Industrial Management), by John F. Due, Professor of Economics, University of Illinois (M.I.T. Press, \$6).

Theory of Linear Physical Systems: Theory of Physical Systems from the Viewpoint of Classical Dynamics, Including Fourier Methods, by Ernst A. Guillemin, '24, Professor of Electrical Engineering, Emeritus, at M.I.T. (John Wiley & Sons, Inc., \$12.50).

The Eisenhower Papers

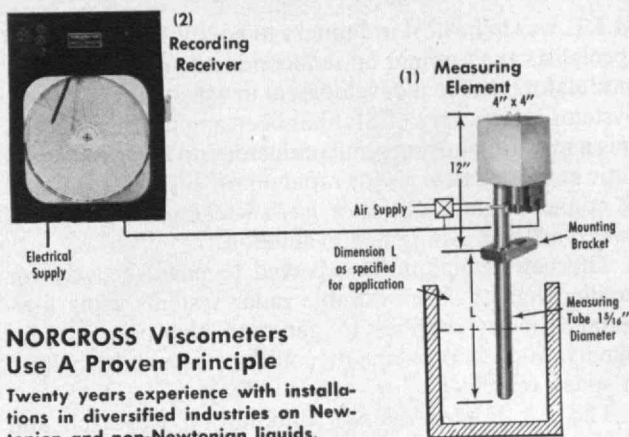
THE PAPERS and personal letters of former President Dwight D. Eisenhower are to be edited by Professor Alfred D. Chandler, Jr., a member of the M.I.T. Faculty for many years, and published by the Johns Hopkins University Press. Now in thousands of boxes at Abilene, Kansas, Gettysburg, Pa., and other places, the documents are more voluminous than those of all Presidents before Franklin D. Roosevelt. Editing and publishing them is expected to take about 10 years and cost about a million dollars. Professor Chandler, who is now at Johns Hopkins, believes this to be the earliest publication of a major figure's manuscripts that has ever been arranged.

In Current Magazines

THE ODDS-ON FAVORITE to defend the America's Cup this year, *Sports Illustrated* reported January 6, is a boat now being tank-tested by Olin J. Stephens, '30, "the man who knows his job better than any other." His *Ranger* won in 1937 and his *Columbia* in 1958, and drawings of his yachts illustrate a profile of him.

The December, 1963, issue of *Scientific American* featured a report by Professor Alexander Rich of M.I.T. on polyribosomes, the collections of particles that appear to be the assembly lines on which the living cell manufactures protein molecules.

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Trend of Affairs

(Concluded from page 15)

Radar Technology

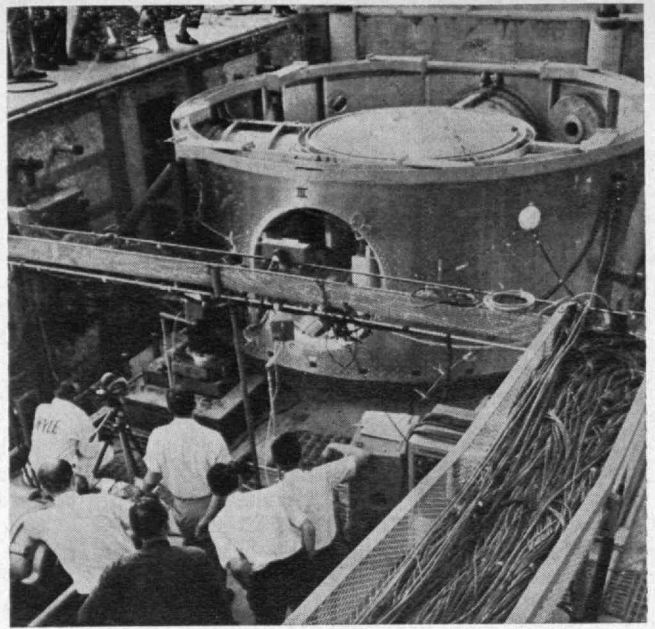
M.I.T. was to be host in January to nearly 100 electronics specialists at a seminar on semiconductor-magnetic radar modulators, a recent development in which the Electronic Systems Laboratory (ESL) has been among the pioneers. It is a method of using semiconductor and saturable magnetic switching devices for rapid on-off switching, instead of conventional vacuum or gas switching tubes, that is now ready for testing and evaluation.

The new technique is expected to pave the way for smaller, lighter, more durable radar systems using low-voltage power supplies to generate high-power radar signals. Such improvements could be especially helpful in space vehicles.

The Air Force Avionics Laboratory, Research and Technology Division, of the Air Force Systems Command at Wright-Patterson Air Force Base co-sponsored the seminar with ESL. Participants included Professor J. Francis Reintjes, Laurence R. Swain, Jr., '60, and Godfrey T. Coate, '47, of M.I.T. and Rolando L. Jordan, '58, of the California Institute of Technology.

High School Symposium

MORE than 150 high school juniors and science and mathematics teachers from the Boston area are expected to participate in the second M.I.T. Junior Science and Humanities Symposium on April 9 and 10. Senior scientists, M.I.T. freshmen, and high school students will report on their work, and each participant will visit an



THE MOST powerful vibration testing system ever built is shaking Saturn I booster sections at the Huntsville, Ala., Laboratories headed by Frank S. Wyle, '41. It can apply 200,000 force-pounds horizontally or vertically.

Institute laboratory. The symposium is sponsored by M.I.T. in conjunction with IBM, the U.S. Army's Materials Research Agency (Watertown) and Research Center (Durham), and the Massachusetts State Department of Education.

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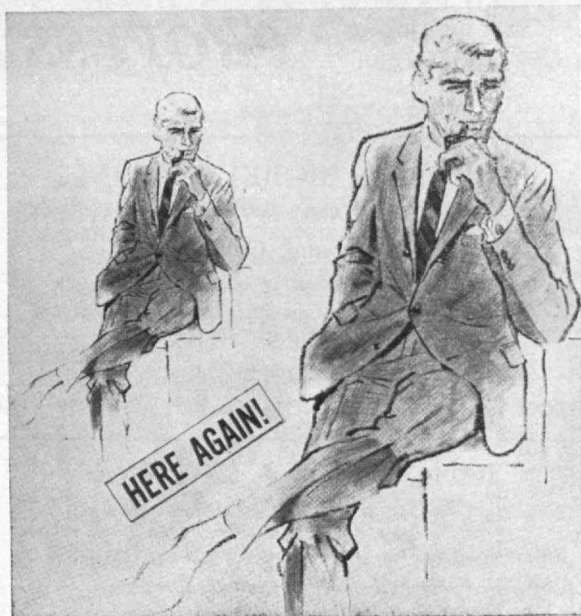
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Computer Aided Teaching

(Concluded from page 12)

lems" taught by Professor Charles L. Miller, '51, have mastered that new language in a single class session, and used it within a few days to design highway intersections.

More advanced students now complete assignments that no instructor formerly would have dared to give a class. Professor J. M. Biggs, '41, for example, has a graduate class in structures which has learned STRESS and used it in work that M.I.T. students never did before.

"In the past," Professor Biggs explains, "we have been unable to give students effective instruction and experience in the design of complete structures. This is particularly true in the case of indeterminate structures. The student simply did not have time to go through the cycling process of analyzing and proportioning of the elements which is required in the design of an indeterminate structure. Many students completed their education without ever having actually designed a complete structure."

That need no longer happen.

Using a computer enables a student to see quickly the effects of an alteration in design or a different choice of materials. He can experiment in ways that time prevented his predecessors from doing. Thus, *Engineering News-Record* reported after a recent visit to M.I.T., students can "gain in hours the experience designers now take years to get."

Across the hall from the new classroom there are seven card-punching machines. A student can go there, state his problem by punching a deck of cards, feed it to either the 1620 or a 7094, and have the mathematical work done for him in a jiffy. This makes learning more fun than it used to be. Even more significantly, it gives a young man more time to learn the fundamentals of science and master the art of civil engineering.

Oil Foundation Support

IN ADDITION to a \$20,000 payment on its Second Century Fund pledge, the American Oil Foundation gave \$19,000 to M.I.T. in December. Lewis W. Moore, '33, the Foundation's President, specified that the funds were to be spent currently to improve education and not used for endowment. This was one of 42 unrestricted grants made in 1963 by three oil industry foundations to 31 private universities and 11 colleges, totaling \$516,500.

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Club News

M.I.T. Alumni of N.Y. Discuss Radiation Uses

The M.I.T. Alumni of New York met on December 16 at the Grand Ballroom of the Roosevelt Hotel for cocktails, dinner, and a discussion of "Megavolt Electrons and X-Rays for Therapy and Industry." This was the first of a series of meetings sponsored by the Alumni Center. Non-alumni and ladies are welcome as members' guests.

Speakers were John G. Trump, '33, Professor of Electrical Engineering at M.I.T. and Chairman of the High Voltage Engineering Corporation, and Dr. Ferdinand A. Salzman, Associate Radiologist of Lahey Clinic of Boston. Professor Trump is an authority on the design of electrostatic x-ray and electron sources, and on the effects of such radiation on matter. Dr. Salzman has been connected with the M.I.T.-Lahey Clinic Program for the last decade.

The discussion dealt with the use of megavolt electron beams in bone and artery banks, the sterilization of surgical materials, the preservation of food, and the polymerization of plastics. Advances in the production of particle beams for nuclear structure research and radiation processing were reviewed. About 40 patients a day are treated at M.I.T.'s High Voltage Laboratory in co-operation with the Lahey Clinic.

At luncheon scheduled for January 14, the topic was to be "International Use and Control of Space."—M.I.T. Alumni Center of New York, 345 East 47th Street, New York 17, N.Y.

Indiana Association Hears Professor Shrock

The Indiana Association of M.I.T. members and wives heard Professor Robert R. Shrock, Head of the Department of Geology, speak on November 12 at the Manger Motor Inn. He described the new Green Center for Earth Sciences and entertained us with interesting tidbits of recent research work going on in his department. Mrs. Lavrenz, the professor's sister, was a guest at the meeting. Since she is a resident of Indianapolis, Professor Shrock, also a native Hoosier, may visit us again.

Alumni in attendance were: John H. Babbitt, '17, H. J. Brown, '30, R. E. de Raismes, '37, Miss Eugenia Drits, '25, Donald W. Fork, '42, T. G. Harvey, '28, H. C. Karcher, '25, Marshall D. McCuen, '40, A. L. Morse, '21, Howard S. Morse, '03, J. Raymond Ramsey, '17, Frank J. Travers, '23, and John B. Welch, '13. One prospective student and his father joined us for dinner, and another came for the talk only.—Thomas G. Harvey, '28, Secretary-Treasurer, 5685 North Delaware, Indianapolis, Ind.

Future M.I.T. Club Meetings

Following are the dates and principal speakers as announced at the time of printing for M.I.T. Club meetings during February and March, 1964. For more details consult the club secretary in your city.

February 13—Boston—Metropolitan District Commission—

Plans, Problems, Politics

Secretary: John M. Reed, '51, Room 831, 73 Tremont Street, Boston

February 24—M.I.T. Alumni Center of New York—Population Explosion

Executive Secretary: James N. Phinney, United Engineering Center, 345 East 47th Street, New York

February 26—Worcester—Professor John Bishop, Harvard Business School

Secretary: Arnold A. Kramer, '52, 88 Longfellow Road, Worcester

March 5-7—Mexico City—16th Annual Fiesta

Reservations: Alvino Manganill-Arce, '31, Angel Urraza 1311, Mexico, D.F.

March 7—Cleveland—Regional and Guidance Conference

Secretary: Walter A. Rajki, '51, 154300 Lorain Avenue, Cleveland

March 12—Washington, D.C.—Program to be Announced

Secretary: Richard R. Martin, '45, Decision Systems, Inc., Kensington, Md.

March 12—Boston—Professor Glenn C. Williams, '42

March 20—Worcester—Professor Stanley Backer, '41

Additions to this column of meeting announcements are welcome. Copy is due February 20 for the April issue of the Technology Review and should list your club meetings for April and May. Send your copy to: Alumni Secretary, M.I.T. Alumni Association, Room 1-280, Cambridge 39, Mass.

Western Pennsylvanians To Give Science Prize

The M.I.T. Club of Western Pennsylvania held its first meeting of the season at the University Club on December 3. Lynwood S. Bryant, Associate Professor of History, related his experiences as housemaster for McCormick Hall, the residence for women students. His talk brought back fond memories of older dormitories on the M.I.T. campus.

The club accepted a proposal by Vice-president James B. Allen, '36, and Warren H. Howard, '44, to give a \$50 prize at the annual Buhl Science Fair. Members interested in judging exhibits at the fair may contact Jim Allen (DR 3-0813).

Douglas F. G. Haven, '52, of the M.I.T. Alumni Fund, attended the meeting and met with the chairmen for regional solicitation, including Eli I. Goodman, '50, Charles R. Holman, '36, George S. Hubbard, '28, Oliver J. Mendler, '55, and Henry Rockwood, '32, to plan their spring activities. Members desiring to participate should contact these chairmen. Mr. Haven plans to return to Pittsburgh for the March 2 club meeting, which is the annual Guidance Counselors' Night.

A meeting planned for May 4 will include a dinner and tour of the Gulf Research Laboratories, one of the major research and development organizations in the Pittsburgh area. Further information regarding the club can be obtained from Membership Chairman Edward F. Murphy, Jr., '41 (922-5700).—Eli I. Goodman, '50, Secretary, Westinghouse Electric Corporation, Astronuclear Laboratory, Box 10864, Pittsburgh 36, Pa.

Kansas City Club Members Learn of Alumni Seminar

The M.I.T. Club of Kansas City met on December 5 at the Muehlebach Towers and heard William H. Dennen, '42, Associate Professor of Geology, summarize part of the first Alumni Seminar, on "The Origins of Matter," held in September at M.I.T. Billed as a one-hour presentation, the talk and questions which followed actually lasted until late in the evening—an indication of the interest.

Earlier in the day Professor Dennen met for two hours with 20 placement counselors from metropolitan Kansas City high schools. Assisted by Everett P. Weatherley, Jr., '29, James C. Irwin, Jr., '18, Barton L. Hakan, '42, and Edward L. Stevens, '48, of the regional Educational Council, Professor Dennen described Tech and its place in higher education.

Fifteen of the counselors were joined for cocktails and dinner by 23 Alumni and wives. Club President Warren Evans, '39, presided.—Beverly J. Kirkwood, '49, Secretary, 4308 West 79th Street, Prairie Village, Kansas.

New Mexico Group Welcomes 50-Year Man

The M.I.T. Club of New Mexico has welcomed for a member its first 50th anniversary alumnus. He is Charles W. Brown, '13, who recently moved to Columbus, N.M., from Wakefield, Mass. A January 18 luncheon is to be held in Santa Fe at the Palace Restaurant.—Thomas J. Raftery, '31, Secretary, 1505 Valencia Drive, N.E., Albuquerque, N.M.

Washington Alumni Fund Drive Is Organized

The November 22 meeting of the M.I.T. Club of Washington was held as scheduled despite the tragic death of President Kennedy. A minute of silence was observed by all present. The speaker was Raymond L. Bisplinghoff, Associate Administrator for Advanced Research and Technology, National Aeronautics and Space Administration.

Organization of the Alumni Fund Drive in the Washington, D.C. area is underway. Douglas F. G. Haven, '52, Director for Regions—Alumni Fund, has announced the appointment of the following regional chairmen: Sterling H. Ivison, '41, Bethesda, Md.; David B. Cobey, '61, Washington, D.C.; W. Paul Jensen, '50, Alexandria, Va.; A. Homer Skinner, '42, Falls Church, Va.

A joint meeting of the Washington, D.C. Region Educational Council and the Executive Committee of the M.I.T. Club of Washington was held last October 21. President Paul M. Robinson, '44, and Washington Area Chairman for the Council, William C. Howlett, '49, presided. Arthur C. Smith, Associate Professor of Electrical Engineering at M.I.T., who was in the area for a one-week series of visits to local high schools, gave a short talk on recent events at M.I.T.

The following actions were taken by the Executive Committee: Paul T. Semple, '31, was appointed auditor; George R. Thompson, Jr., '53, was assigned to recruit speakers for future meetings; R. R. Martin, '45, was appointed event chairman for the January 28, 1964, meeting and Robert B. Riley, '54, for the March 12, 1964, meeting; David B. Cobey, '61, was appointed chairman of the telephone canvassing committee.

The schedule for remaining meetings is: January 28 (Tues.), March 12 (Thurs.) and April 29 (Wed.).—Dinner meetings all at the Cosmos Club.

The speaker tentatively scheduled for the March 12, 1964, meeting is William C. Foster, '18, Director of the Arms Control and Disarmament Agency.—Richard R. Martin, '45, Secretary, 9308 Milroy Place, Bethesda, Md.

Detroit Alumni Meet At Henry Ford Hospital

Joint research projects in which both medical and engineering techniques are used to fight disease were described to the M.I.T. Club of Detroit at its November 20 meeting at the Henry Ford Hospital. Dr. Richmond W. Smith, Jr., '39, revealed some of the techniques used in his biological studies. Drs. Wilbur McCrum, Joseph Rinaldo, and Harold Frost, researchers at the hospital, described their work involving computer analysis of complex brain wave patterns, the application of special fluoroscopic and manometric techniques to detect disease in the muscles of the throat.

The meeting attracted over 70 members and guests and was preceded by cocktails and dinner at a local restaurant.—C. Elbert Valentine, 3d, '57, Review Secretary, 1061 North Woodward, Birmingham, Mich.

Indian Alumni Association Mourns President Kennedy

The M.I.T. Alumni Association of India recently passed a resolution deploring the death of President John F. Kennedy which said in part: "He was indeed a bold and courageous leader, who was essentially an ardent lover of the freedom of man, of the equality amongst men of different races and indeed of peace. In hours of crisis which brought the world to the brink of war, it was his practical approach, combined with firm and determined steps that saved the world through these critical hours. Another significant contribution by him was the liberal help extended to the underdeveloped and developing countries of the world. We, in this country, will always cherish his memory with gratitude for the considerable help which has been given by his country through his persuasion."—S. M. Dahanukar, '39, President, Industrial Assurance Building, Churchgate, Bombay 1, India.

Northern New Jersey Club Reviews Space Program

The M.I.T. Club of Northern New Jersey held its winter meeting on December 3 at the Hotel Suburban, East Orange. Forty-five members heard Albert J. Kelley, '48, of NASA, give a lecture illustrated with colored slides in which he explained the relationship between the various phases of the space program. Dr. Kelley envisions no change in government policy by the new administration. He stated that technology is the major factor today in the balance of world power and all the world can readily compare demonstrated capability in space.—Charles C. King, '38, Secretary, Hydrocarbon Research, Inc., 115 Broadway, New York 6, N.Y.

Boston Stein Club Views Dramashop Play

The Boston Stein Club met for dinner on December 12 at the M.I.T. Graduate House and then attended a performance of Ben Johnson's "Bartholomew Fair" presented by the M.I.T. Dramashop at the Krege Little Theater.

Joseph D. Everingham, Associate Professor of English and Director of Drama, gave a short descriptive talk at the dinner about the play and production. Johnson satirized the foibles of his age, and the songs and lavishly colored sets and costumes accented the Dramashop production of this lusty comedy.—Mel A. Barkan, '55, Secretary, 10 Emerson Place.

Long Island Alumni Visit Harman-Kardon

Thirty members, guests, and wives of the M.I.T. Alumni of Long Island toured the Plainview plant of Harman-Kardon, Inc., on December 6 and heard demonstrations of stereo and hi-fi. A stereo demonstration in the company cafeteria was especially interesting. The plant visit was followed by cocktails and dinner at a nearby restaurant. Nelson R. Disco, '57, was chairman.—Douglas A. Tooley, '28, Secretary, 11 Cider Mill Lane, Huntington, N.Y.

Lehigh Valley Club Tours Bethlehem Steel

An afternoon tour of the new Homer Research Laboratories of Bethlehem Steel Company provided an appropriate background for the autumn dinner meeting of the M.I.T. Club of the Lehigh Valley on November 20. After the tour area guidance counselors joined Alumni for dinner and heard Donald R. F. Harleman, '47, Professor of Civil Engineering at M.I.T., describe "New Approaches to Engineering Education."

Before introducing Professor Harleman, Donald J. Blickwede, '48, Manager of Research at Homer Laboratories, pointed out the need for guiding qualified students into technical education so that the future personnel demands of industry and government agencies may be met. Professor Harleman explained the problem of selecting a freshman class. Academic ability, though an important qualification, he said, has become less useful because steadily rising student aptitudes have given the personality rating a greater value. This rating is compiled from reports of school advisors and alumni interviews.

This meeting, our first after a season of comparative inactivity, was attended by 27 Alumni and 19 guests. Nominees elected to the club offices to be filled this year were Donald J. Blickwede, '48, President, and William F. Mackenzie, Jr., '45, Vice-president, both for two-year terms; Jack R. Webb, '53, Treasurer; and Members-at-Large, Edward C. Finnegan, '51, and James L. Nicol, '57, for three-year terms.—William V. Bassett, '39, Secretary, 3429 Mountainview Circle, Bethlehem, Pa.

Oklahoma M.I.T. Club Elects 1964 Officers

The M.I.T. Club of Oklahoma met in the Tulsa Petroleum Club on December 3. Thirty-five members and guests heard William H. Dennen, '42, Associate Professor of Geology, speak. The following officers were elected for 1964: Robert L. Rorschach, '43, of Tulsa, President; Charles B. Stuart, '34, of Oklahoma City, and Erling O. J. Helland, '40, of Tulsa, Vice-presidents; Alanson W. Chandler, '37, of Tulsa, Secretary-Treasurer; Paul A. Cushman, '11, and John P. Dowds, '51, both of Oklahoma City, and Louise Jordan, '31, of Norman, as Executive Committee members.—Bruce Kirton, '44, Secretary, 5317 28th Street, Tulsa, Okla.

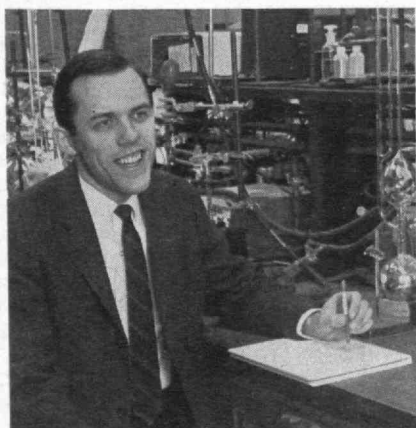
Boston M.I.T. Club Learns About NASA

The M.I.T. Club of Boston met on December 12 at the Union Oyster House to hear Franklyn W. Phillips, '41, Director of the North Eastern office of NASA. Mr. Phillips joined the National Advisory Committee for Aeronautics (the predecessor of NASA) as a research engineer when graduated from M.I.T. His career in aeronautics and space has ranged from practical engineering to program administration and has included such special assignments as Secretary of the President's Space Council.—John M. Reed, '51, Secretary, Room 831, 73 Tremont Street.

1964 Alumni Fund Contributions

(Through December 31, 1963)

<i>Class</i>	<i>Contributors</i>	<i>Amount</i>	<i>Class</i>	<i>Contributors</i>	<i>Amount</i>
1879-98	27	\$ 2728	1932	124	\$ 4366
1899	12	1750	1933	148	7642
1900	9	865	1934	152	7898
1901	14	990	1935	109	5330
1902	19	1880	1936	132	5852
1903	18	1680	1937	120	5921
1904	29	1185	1938	119	3457
1905	27	3108	1939	139	6064
1906	41	2166	1940	129	5971
1907	31	2450	1941	138	5111
1908	39	4208	1942	143	4520
1909	47	2034	1943	138	9401
1910	34	1699	1944	176	7048
1911	71	5113	1945	95	2700
1912	50	2989	1946	145	3575
1913	55	1524	1947	175	3381
1914	50	10666	1948	298	6534
1915	77	4400	1949	216	6409
1916	64	4262	1950	315	5801
1917	98	4623	1951	258	5695
1918	62	2480	1952	205	3743
1919	59	4355	1953	173	4078
1920	93	6019	1954	178	3102
1921	108	8448	1955	176	3214
1922	154	11258	1956	197	3432
1923	155	10278	1957	207	3295
1924	162	8173	1958	175	2553
1925	108	11330	1959	178	3151
1926	148	13715	1960	178	2400
1927	132	24095	1961	124	1554
1928	153	7329	1962	99	1047
1929	121	5743	1963	52	718
1930	111	4493	Sloan Fellows	118	4791
1931	126	8250	TOTALS	7833	\$336,040



THE FIRST man to receive an American Can Company Foundation fellowship at M.I.T. is Robert W. Hausslein, '58. He is studying for a doctorate in chemical engineering.



ERICH HELLER, Professor of German at Northwestern University, was Carnegie Visiting Professor of Humanities at M.I.T. in the fall term, and is shown above discussing German philosophical thought with undergraduates. He has published extensively in German and English on literature and intellectual history, and lectured at many of the world's leading universities.

Class News

'95

Last month we called to your attention an article in the September 'Fortune' magazine by our Class President **Alfred P. Sloan, Jr.**, entitled "My Years with General Motors, Part I." When we were freshmen at M.I.T., little did we think that a classmate taking Course VI was destined to be a leader in commercial activities involving millions of dollars in the automobile industry. If you read Part I probably you will enjoy Part II in the October 'Fortune,' and Part III in the November issue.—**Andrew D. Fuller**, Secretary, 120 Tremont Street, Boston, Mass.

'96

Walter J. Mayo had hoped to attend the June meeting of the Alumni Association; Mrs. Mayo counted on going too; she wrote a letter delivered on the morning of the luncheon acknowledging the receipt of a note of sympathy from the class on the death of Walter. He was in the hospital only two days before he died on May 21. . . . **Fred Brown Owen** died on May 11, 1962. . . . The Goodyear Company was written up in 'Time,' December 6. The company was founded by the Seiberling Brothers in 1898; they had the good fortune to hire a young engineering genius named **Paul Litchfield** who made a more easily detachable auto tire than any on the market. By 1916 Goodyear became the largest tire maker and in 1921 Litchfield took over full control of the company. He remained with Goodyear until his death in 1959. . . . An autographed copy of "Yankee Scientist" by John Anderson Miller, sent by **William Coolidge** with his compliments to Secretaries Driscoll and Hedge, was recently received. Dr. Willis Whitney brought Coolidge from an M.I.T. laboratory to the General Electric Research Laboratory, of which he was director, in 1905. Dr. Irving Langmuir arrived in 1909. At a banquet in 1932 in honor of the three scientists, President Day of Union College said: "Dr. Coolidge came to the General Electric Company in 1905, whereas Dr. Langmuir arrived in 1909. It is difficult to get off the starting mark ahead of a New Englander named Coolidge. Like Langmuir, Coolidge is badly in need of a large fireproof vault in which to store his testimonials, medals and honorary degrees. He is known throughout the civilized world for his work on tungsten and for his contributions to radiology and medicine as the inventor of the Coolidge X-ray tube. He should not be confused with another great personage of the same name who has rein-

forced his fame through silence, and the cryptic remark "I do not choose to run." For our Coolidge runs all the time, in fact he runs the General Electric Research Laboratory." The book lists 16 medals and awards, from the Rumford Medal in 1914 to the 1963 award of the Roentgen Medal; eight honorary degrees and two-score memberships in social and honorary organizations. Among the 80-odd patents issued to William David Coolidge are ductile tungsten in 1913 and X-ray tubes in 1917.

During World War II the lab was devoted almost entirely to war work. Radar and radar-counter measures engaged the largest group; silicon research developed silicon rubber, used for various purposes by the Army and Navy, as well as resins, and oils and greases that were remarkably stable under a variety of conditions. Coolidge was in constant demand by agencies engaged in government projects for advice, so he did little personal laboratory work. When Coolidge asked to be retired he was asked to stay on during the war and after 1944 he did retire as director but was retained as consultant to the Laboratory and to the G.E. X-ray Corporation. Will started to work on tantalum, used as a filament in Europe; in February, 1906, he switched to tungsten, also being tried abroad as a filament. He pursued his own method, despite the rights acquired by Whitney to the German method, and after years of experimentation produced ductile tungsten that made the filament for incandescent lamps and was used for many electric appliances, notably in the Coolidge tube. The company in 1919 offered a dental unit that, like the Coolidge tube, was universally used by the dental and medicinal professions. In the fall of 1946 Coolidge re-entered the employ of the General Electric Company for four months to establish a small branch of the Schenectady Research Laboratory at Richland, Wash.

As a special representative of the Manhattan Project of the Corps of Engineers of the U.S. Army he attended the bomb test at Bikini. He and Mrs. Coolidge visited Lima, Peru; Santiago, Chile; Cordoba, Argentina; Montevideo, Uruguay; and Rio de Janeiro, Brazil. At each of these countries he was received with nice appreciation of his visit, manifested by bestowal of medals and degrees for "his many contributions to civilization." In Brazil the honorary doctor's degree from the University of San Paulo was the second ever given; the first was to Madame Curie. Mrs. Coolidge usually accompanied Will on his many travels around the world. After leaving Russia they came through Poland and called on Madame Curie, who was most interested in hearing about her native country. Dorothy demurred about making the trip through the laboratory but Madame put her arm around her and insisted on her coming along. Madame evidently remembered her visit to Schenectady when she stayed in seclusion with the Coolidges when she was too ill to appear in public for a planned reception.

There were constant visitors at the

laboratory and the V.I.P.s had to be greeted by the leaders of the laboratory. World known scientists were naturally interested in the unique workshop and those who were in charge of the various projects under study. During the war officers and civilians doing war work and government officials came to see how the projects they had under study were going. To pick out a few of the celebrated visitors would be tactless as some more noted would be slighted, like the famous German leader in tungsten investigation. Will showed him a spool of tungsten wire; until Blau tested it he thought, "There ain't no such animal." A note in Will's writing for 12/15/06: "Dr. Burgess (Bureau of Standards), he, (Blau), Weintraub, Willis, and I had lunch together" assured the reader that '96 was among friends. **Henry Hedge** brought the book back to me after he had read it and said, "Will is a most remarkable man to do all that work, travel all over the world, meet so many notables and still be physically able to stand it." We both have the same sentiments, and wish Will and Dorothy all the blessings of the season.—**James M. Driscoll**, Secretary 129 Walnut Street, Brookline, Mass.; **Henry R. Hedge**, Assistant Secretary, 105 Rockwood Street, Brookline, Mass.

'97

My appeal for class news having had no results, I was about to manufacture some "pseudo news" when two obituary notices, I am sorry to say, arrived. **Lawrence L. Gaillard**, Course VI, and **Charles L. Hammond**, Course I, both died this past summer. Lawrence lived in Somerville, S.C., and Charles was from Malden, Mass. I do not remember Gaillard, but Hammond I knew well. He joined us in sophomore year, and I do not remember meeting him at all during our undergraduate years. Our later meeting was interesting. In the fall of 1897, I received an appointment to a group of engineers, surveyors and drillers going to Nicaragua to study the possibilities of an inter-oceanic canal at that point. We were to assemble in New York City for conveyance to Central America on the new composite gunboat 'Newport.' There were about 70 of us, experienced and green. The 'Newport' had only about 40 lockers so "doubling up" was a requisite. As we waited for assignments, I looked about for a personable locker mate and decided on the next man ahead of me in line. Much to my surprise, he said his name was Hammond, and that he was a recent M.I.T. graduate!

We got to know each other well in the two weeks' trip to Greytown, the proposed Atlantic outlet of the proposed canal; though we were assigned to different portions of the survey, we saw each other frequently. We both came back to the States within a year or so and corresponded occasionally. Charles was in railroad work and later Navy Yard construction, while I was busy at textile and paper mill work. Several times when in New England, my wife and I called on

Charlie and his wife in Malden. It is sad to say that something over a year ago, Mrs. Hammond died and Charles' health was poor. I am trying to get in touch with Charles' son Wilson, '28, to get further particulars of Charles' career.—**George R. Wadleigh**, Secretary, 70 Flower Avenue, Hastings-on-Hudson, N.Y.

'98

Your secretary attended the noon luncheon of the M.I.T. Club of Boston held at the Union Oyster House on November 14, 1963. Professor Zacharias gave a brief talk on "The New M.I.T. Curricula and Why." Professor Stratton has appointed Professor Zacharias head of a committee to study the question of a curriculum revision to 1.) allow the undergraduate more freedom in choosing his subjects and; 2.) give him proper direction so that he can acquire a better understanding of the subjects. Such an approach would enable the student to develop more fully the creative abilities which he needs in post-graduate courses. This approach would apply particularly to the sciences, but its importance to the humanities and social sciences should not be minimized, according to Professor Zacharias.

We regret to report the passing of our classmate, Professor **Maurice deKay Thompson** on November 5, 1963. We recall visiting Maurice occasionally when he was living on Mt. Vernon Street on Beacon Hill after his retirement. He was in the habit of sitting out on his front lawn on sunny days with some favorite book. The last class function he attended was our 60th at the Algonquin Club. We have received from the Alumni Register the following clipping of the Boston Evening Globe: "Maurice deKay Thompson, 86, Professor of Electrochemistry at Massachusetts Institute of Technology until his retirement in 1942, died yesterday at Mt. Kisco, N.Y., after a long illness. He formerly lived at 75 Mt. Vernon Street, Beacon Hill. A native of Covington, Ky., he was a graduate of M.I.T. and received a Ph.D. from the University of Basel, Switzerland, in 1903. He was the author of a standard textbook on electrochemistry and was a member of the American Academy of Arts and Sciences, the Electrochemistry Society and the Boston Athenaeum. Professor Thompson leaves three daughters: Mrs. Grenville Goodwin of Mt. Kisco; Mrs. David Riesman of Cambridge; and Miss Clare deKay Thompson of Washington, D.C.; five grandchildren; a sister, Mrs. John M. Kennedy of Denver, Colo.; and a brother, Bayard T. Thompson of Covington, Ky. Private services will be held at Mt. Kisco." The Class of '98 loses a prominent member in the passing of Professor Thompson and extends deepest sympathy to his family.

The '98 Class News does get around as evidenced by a pamphlet entitled "On The Surface" dated October, 1963, issued monthly at Forge Village, Mass. A front-page article in this pamphlet begins with "In the Class News Section of a recent issue of The Technology Review quite a bit of space was given to **Roger Babson**

whose name in print always claims our attention." The article ends with: "The latest Babson story tells how he was entertaining a group of eager boys and girls in Orlando, Fla. On this occasion he brought cheers from the guests when he stated 'The best investments are kids and land.'" The '98 Class News Section to which the pamphlet refers, appeared in the June, 1963, issue of the Tech Review. . . . We would like to hear from more of our classmates, if only by short notes telling of their activities. We are sure such notes would be interesting to other classmates and help us to keep in touch with one another.—**Frederic A. Jones**, Secretary, 286 Chestnut Hill Avenue, Brighton 35, Mass.; **Edward S. Chapin**, President and Class Agent, 271 Dartmouth Street, Boston 16.

'99

Edgar P. Trask was born September 28, 1877, and died August 31, 1963. Walter R. Bean, E. Everett Pierce and Edgar Trask went to the New York Shipbuilding and Dry Dock Company, after receiving their degrees in naval architecture. After a year in Newport News they went to the New York Shipbuilding Company in Camden, N.J. From 1913 to 1924 Edgar was at Camp's; in 1927 with Theodore Ferris he helped prepare a complete set of building plans and specifications for a 1,000-foot, 30-knot super liner but the U.S. Lines sold out and the new owners did not build; later with Gibbs and Cox he made a special study of stability on the plans for the "S. S. United States." From 1947 to 1952, Edgar was an associate member of Theodore Ferris and Sons. He then did parttime consulting until his retirement in 1956. But the lure of shipbuilding kept on and he built a model of the full-rigged clipper ship "Sovereign of the Seas" built by Donald McCay. Edgar is survived by a son and three grandsons, and a daughter, Miss Mildred Trask, who

managed his house. . . . **Miles S. Sherrill**, our class representative to the Alumni Council, has returned from his wonderful year in Europe. . . . In 1964 our class celebrates its 65th anniversary. We number 45, and although some are very active and travel about the world others are happy to stay by their own firesides. If you would forget your modesty or inertia and send to me a sketch of your life and present interests, we could prepare a synopsis that would be of interest to all of us.—**Percy W. Witherell**, Secretary, 1162 West Street, Wrentham, Mass. Telephone: II EV 4-3164.

'02

A clipping received from the Alumni office tells of the death of **Frederick Mathesius** on October 23, 1963, at Stamford, Conn. Mathesius was of Course IV and successfully practiced architecture in New York City for many years. His firm was especially interested in college building design and had many buildings to its credit. During the New Deal he served as chairman of the New York Architects Code Committee. In class affairs he was very active in our New York group and was responsible for maintaining a lively interest in M.I.T. He made his home in recent years in Stamford, Conn., in the summer months but in the winter went to Palm Beach, Fla. He is survived by his wife and four daughters—Mrs. Eleanor MacCormack, Mrs. Elizabeth Blair-Smith, Mrs. Helene Colket, and Mrs. Pauline Robertson. . . . Our class records show a membership of 70 of whom 27 live in Massachusetts, 7 in Florida, 5 each in Connecticut and California, 4 in New York, 3 each in Maine and Maryland, 2 each in Vermont, Rhode Island, Pennsylvania, and Washington, D.C. and 1 each in Tennessee, Minnesota, Missouri, Colorado, New Mexico, Oregon, Quebec, and old Mexico. . . . **John Marvin** in his

Deceased

GEORGE E. WHITNEY, '79, Dec. 4
CHARLES N. KINNEY, '94, June 2, 1962
WALTER J. MAYO, '96, May*
IRENEE DU PONT, '97, Dec. 19
LAWRENCE L. GAILLARD, '97*
CHARLES L. HAMMOND, '97*
CHARLES R. GREENLAW, '99, Nov. 23
M. DEKAY THOMPSON, '98, Nov. 5*
EDGAR P. TRASK, '99, Aug. 31*
E. HAMBLETON WELBOURN, '00, Oct. 16
FREDERICK MATHESIUS, '02*
BERNARD BLUM, '04, Oct. 17*
JULIUS A. FURER, '05, June*
LOUIS H. TRIPP, '06, Sept. 11*
JOHN KIMBALL, '07, Oct. 19
LOCK DAVIDSON, '08, Sept. 2
EDWARDS W. BARNUM, '09, July 5, 1962*
HERBERT P. JOYCE, '11, May 10*
ROGER M. SPENCER, '11, Feb. 26, 1963*
DONALD R. STEVENS, '11, Nov. 23*
KENNETH CARTWRIGHT, '12, Sept. 22*
HAROLD H. SHARP, '12
EDMOND W. BOWLER, '14, Oct. 28*
MATTHEW HARRISON, '14*

GEORGE P. ALLEN, '16, Aug. 19
HENRY F. GOLDSMITH, '17, Oct. 27*
HENRY W. ERICKSON, '20, Nov. 24*
FRANK P. FLETT, '20, Oct.*
MERRITT H. TAYLOR, '20, March 16
HERBERT C. DESTAEBLER, '21, Nov. 2*
WILLIAM F. KENNEDY, '21, Nov.*
WILLIAM DUANE, '22, Oct.
S. HOWELL BROWN, JR., '24, Nov. 16*
EDWARD CARLSON, '24, May 15*
EDWARD J. DEVLIN, '24, Oct. 26
JOHN C. FALKENBERG, '24*
WILLIAM L. LAMM, '24, Nov. 13*
GEORGE E. APEL, '26*
ALBERT C. SMITH, '27, Nov. 18*
FRANCIS W. MCCABE, '28, March 27
LIVINGSTON LONGFELLOW, '29, Dec.
ELMER W. HARMON, '30, Aug. 29
JOSEPH V. RYAN, '31, Oct. 24*
JOHN H. KEATLEY, '34, Oct. 19
RAYMOND F. MCATEER, '36
WILLIAM A. SHEA, '36, Feb. 22
FREDERICK A. FITZ-GERALD, '38, Nov. 8
THEODORE Q. ELIOT, '42, Feb. 24
MALCOLM M. STERN, '51, Nov. 30
*Further Information in Class News.

Sloan Fellows

News of several promotions among M.I.T. Sloan Fellows has been received recently. Among them, **Peter F. Mueller**, '62, formerly with J.R. Geigy A.G., a chemical company in Basle, Switzerland, was appointed Assistant Controller of CIBA Corporation. . . . **Eugene R. Karrer**, '59, was named Executive Engineer for the Product Test and Development Section of the Ford Motor Company. He was engineering administration manager at the time of his appointment. . . . **Dean D. Kerr**, '63, formerly Mines Operation Superintendent for the Bay Mines Division of Kennecott Copper Corporation, is now Smelter Operations Superintendent for the Corporation—**Peter P. Gil**, Secretary, Room 52-455, M.I.T., Cambridge 39, Mass.

Christmas card said he had an "itching foot" and would start January 25 on the 'Rotterdam' of the Holland-American line for an 80-day trip around the world. He should be well under way when this is read.—**Burton G. Philbrick**, Secretary, 18 Ocean Avenue, Salem, Mass.

'03

Well, classmates of the unique Class of '03, your secretary must uphold the standards of electric energy, must not permit any semblance of static in the hydraulic sphere—no cessation of fluid motion. Thus the following notes assume a rambling style both new and reminiscent. . . . A cheerful letter from **Louis B. Rapp**, III, from Gainesville, Fla., dated June 6 read: "Just to let you know that I appreciate very much hearing from you about the 60th Reunion. It is a rather long walk to Boston and there are, of course, other reasons why I cannot make it at this time. Please be sure that I would like to whoop it up with you fellows. Anyway, remember me to everyone and I hope you all have the greatest time." . . . **George C. Capelle**, XIII, is active in his retirement and welcomes news from old associates at his home at 91 Crest Avenue, Chelsea, and summer home care of Professor Russell B. Capelle, Northfield, Vt. . . . A recent news item concerned local ground perhaps unknown to some of our distant group. The Hobby Shop held open house at their new headquarters at M.I.T. in the former Massachusetts Armory building, in the basement. A place to tinker for sheer pleasure, the shop has provided work space and equipment for hobbyists. This idea, however, has been carried out for many years in two basement rooms in the main Institute building. The lathes, grinding wheels, planers and band saws, drill presses and printing presses, radial arms and electronic testing equipment, have been gathered for the uses of students and professors. Unusual projects

that the Hobby Shop has fostered include a houseboat atop a floating barge in the Charles River, automobile designs which won first and second places in the 1948 Fisher Body contest, and a 17-foot sailboat which recently won a New England sailing championship.

Now for some reminiscences . . . In opening a 1925 Review, I read of our still active **Walter Regestein**, who had read an appeal for class news and in reply related his meeting with **George B. Bradshaw**, who had just returned from a six-weeks business trip to Mexico. "He had obtained a leave of absence from DuPont to straighten out some difficulties in connection with rubber manufacture. Brad says he had had a wonderful trip. When asked while visiting the Casino in Havana what he had to drink, he replied 'only tea.' He was duly aware of an acquaintance's wealth by his frank acknowledgment that he had to consider 'how much water could be added to wine and still have it salable.' . . . The reunion at M.I.T. on June 11 and 12, 1925, was a very creditable showing for our class. Many of the men brought their wives and several brought their children. Many came considerable distances, and one came from the Pacific Coast. The Harbor outing proved the most popular with an attendance of 27 men and guests. With ideal weather and a most admirable location (Bass Point, Nahant), this event afforded the best time for renewing acquaintances. The Jamboree Dinner drew 23 men and guests and there was something going on every minute. This event was the most elaborate and spectacular success of the reunion, considered from the point of view of an entertainment; it was very thoroughly enjoyed by all. Sixteen classmates also attended the Pops Concert . . . We cannot close this brief summary without paying our respects to the ladies who attended the reunion and who added much to the sociability of the various events. We hope to have them and others present at our 25th Reunion in 1928. **Chester S. Aldrich**, Secretary; **Gilbert H. Gleason**, Assistant Secretary." . . . This historical notation should stimulate memories and bring back to classmates the daily associations and the cherished classrooms and laboratories of Rogers and Trinity Place, Boston.—**John J. A. Nolan**, Secretary, 13 Linden Avenue, Somerville, Mass.; **Augustus H. Eustis**, Treasurer, 131 State Street, Boston, Mass.

'04

Please remember that these notes are being written in the middle of December. When you read them early in February you may already have received a letter giving various items of information regarding our proposed 60th Reunion. . . . Those of you who received the December number of the Technology Review probably read with interest some facts regarding McCormick Hall, the new girls' dormitory provided by the generosity of our classmate **Katherine Dexter McCormick**. Its reality exceeds the de-

Happy Birthday

Celebrating their 90th, 85th, and 80th birthdays during February are, respectively, 1, 8 and 15 Alumni, as listed below with dates of birth.

February, 1874—**CHARLES R. CURRIER**, '97, on the 27th.

February, 1879—**MRS. GEORGE H. HAMILTON**, '03, on the 8th; **WILLIAM D. CROWELL**, '02, on the 10th; **HAROLD H. DAVIS**, '02, on the 11th; **NATHANIEL K.B. PATCH**, '01, on the 15th; **WILLIAM C. FURER**, '06, on the 18th; **ARCHIBALD H. BRIGGS**, '02, on the 20th; **NATHANIEL D. RAND**, '00, on the 21st; and **JOHN W. SHAW**, '04, on the 22nd.

February, 1884—**HENRY S. HUBBELL**, '06, on the 2nd; **FRANCIS G. BALDWIN**, '06, on the 3rd; **HARVEY S. PARDEE**, '09, on the 9th; **JOHN G. DOTEN**, '06, on the 13th; **HARRY V. FLETCHER**, '06, on the 14th; **AUGUSTUS S. BOYNTON**, '06, and **GEORGE R. GUERNSEY**, '06, on the 15th; **HENRY A. BUFF**, '05, on the 16th; **HUGO F. KUEHNE**, '08, on the 20th; **PHILIP B. SADTLER**, '06, on the 21st; **RALPH O. REED**, '06, on the 26th; **PAUL FREDERICK**, '07, on the 27th; **ALF E. ANDERSON**, '06, and **FRANK E. HAMILTON**, '07, on the 28th; and **WILLIAM J. WALKER**, '07, on the 29th.

scription in The Review. The Institute authorities have given us permission to use this facility as headquarters during our reunion. It should be a delightful place to stay for everything is brand new and the location on Memorial Drive overlooking the river is hard to beat. We hope that many of you are planning to attend, for a good time will be had by all.

Many classmates will be sorry to learn that **Bernie Blum**, Course I, passed away on October 17. He and Mrs. Blum attended our 50th Reunion and also our 55th and not long ago he indicated he planned to attend our 60th next June. He had many friends in the class, and we all extend our deep sympathy to Mrs. Blum. . . . News items seem to be scarce right now but we hope Santa was good to all of you and that the infirmities of age are not pressing too hard.—**Carle R. Hayward**, Secretary, Room 35-304, M.I.T., Cambridge 39, Mass.; **Eugene H. Russell, Jr.**, Treasurer, 82 Devonshire St., Boston.

'05

I have had several letters from **Andy Fisher** this past month, all of them giving me strict instructions not to publish some of his family news. Because of the dearth of news this month, I just have to overlook his instructions and break his confidences to ask whether any of you saw in a local paper the picture of Andy's grandson, William Hunter, sitting at a soda fountain in Milford, N.H., and hobnobbing with Governor Nelson Rockefeller when he was making his first campaign trip into New Hampshire. It was front page in the Boston Herald of November 8 and was copied in many large city papers all over the U.S.A. After all, Andy says "it isn't everyone who can boast of having two granddaughters in

the senior class at Radcliffe; and Ame's daughter, Emily Hanke, is president of the senior class." Andy also instructed me to take regular doses of honey and vinegar or I would have a bad cold. I disobeyed again, and am now recuperating from a very severe head cold.

Those who remember when **Willard** and **Mary Simpson** attended a reunion—1948 wasn't it?—will be saddened to hear that Mary died on November 13. Willard fears he may not attend another class function. He thinks the air is too congested by airplanes, and so has a high rate of fatalities. Willard says most of the crack trains of the past are gone. We hope the transportation threat will be dissipated before our 60th in 1965. . . . I have just learned of the death of Rear Admiral **Julius A. Furer, XIII**, in June, 1963. I will try to get further details before the next issue.

It is time that we considered the where and how of our 60th anniversary. The desires of the class will be obtained through a formal questionnaire later, but I would like to hear from you in the interim. As I see it, we have at least three choices—one, a weekend at some Cape Cod spot; another "on campus" using the facilities of Burton House or a similar dormitory; thirdly, a weekend at a country club in the suburbs. Let's have your suggestions.—**Fred W. Goldthwait**, Secretary, Box 32, Center Sandwich, N.H.

'06

In a note on his CC, **Jack Norton** said: "No news from the Nortons." Well, you know, no news can be good news too, though it doesn't help class secretaries any. Jack allowed that he and Margaret would stay in Tryon this winter; "can play just as poor golf here as in Florida." . . . The latter part of November **Bob** and **Anne Rose** came for lunch, and I took them for a glimpse of the big outdoor Babson globe, the building housing the contour map of the United States being closed, unfortunately. Bob told me that he had reserved a berth at the marina adjacent to the coming New York Worlds Fair, and I hope to have more details in the March notes so you who will visit the fair can board the 'White Heron', perhaps. Did you spot the picture of **Jim Wick's** daughter Emily in the December issue? One of the examples of "A Lady's Life at M.I.T." . . . We didn't know until early in December that **George Guernsey** had been out of circulation for a month or more in September and October. He was then at home making a slow recovery and beginning to get around. He and Elsie were hoping to head south, stopping off in Wilmington to visit daughter Mary, en route to Florida. So perhaps George is getting in some golf practice while you read these notes.

The local papers, as well as television, have for some months been pointing up the pollution of New England streams, also the large amount of "soapsuds" they carry. Our vice-president's firm, Metcalf & Eddy, has been active for years as con-

sultant to many municipalities, and Sherm has testified in certain court cases. Early in December an article appeared in Greenfield, stating that Metcalf & Eddy had advised that town's officials that to comply with the state's order to stop dumping raw sewage into the Deerfield and Connecticut Rivers would cost an estimated \$371,000. An existing sewage disposal plant took care of most of the town and the additional facilities were to include an East Greenfield area besides improvements to the existing plant. The article also stated that the nearby town of Montague was in the process of completing a million-dollar sewage disposal system at the state's insistence. Back in April appeared a long article about detergents, appropriately headed: "Enjoy a head of foam on your beer? How about on your drinking water? A good, thick head of soapsuds straight from the tap?" Worthen H. Taylor, '30, XI, who is director of the Massachusetts Bureau of Environmental Sanitation as well as chief engineer, Massachusetts Department of Public Health, warned that this is a prospect facing residents of the state unless action is taken to control the kinds of detergents being dumped into the water supply. He goes on at some length, citing specific examples of trouble and concludes: "The problem with synthetic detergents is simple—they don't die. Old detergents, unlike old soldiers, don't even 'fade away'; they just accumulate underground. Thus the billions of pounds being dumped into the nation's water supply is continuing to accumulate in the rivers, streams, and underground water tables, threatening, eventually, to contaminate the nation's entire water supply." Pretty picture, isn't it? So write to your congressman.

In the November 1960, notes, I reported two deaths but did not include careers, which follow. **William Waterman Gaylord, II, S.B.**, was born in Torrington, Conn., October 30, 1884, and died November 20, 1959, presumably in Torrington where he had maintained an office as a consulting engineer since the early 1950's. He had prepared at Torrington High School, entered with us and lived in Brookline. He was a member of the Mechanical Engineering Society and his thesis was "A Record of Tests made on the Institute Boilers to Determine Comparative Costs of Using Hard and Soft Coal," with **C. R. Burleigh**. From 1906 to 1923 he was employed by the American Brass Company, first as a draftsman then as a mechanical engineer in the engineering department. For the next nine years he was mechanical engineer with Westcott & Mapes, a New Haven firm of engineers and industrial architects. Since 1932: "I have been doing consulting work under my own name in power, heating and ventilating, and industrial engineering, and am also teaching (those subjects) at the Bridgeport Engineering Institute, an evening school of college grade; it seems to be just as popular a course as that Eddie Miller gave us so long ago." On August 27, 1912, he married Mildred Chase Foye, and they had two sons. I do not recall that Bill attended any reunion or Alumni Day, but through the years he sent along class dues.

Another loyal classmate who "stuck to his last," **Sidney Howard George, I**, who died May 13, 1959, was with us only freshman year. By or before 1915 he was a civil engineer with the Chicago, Milwaukee & St. Paul Rail Road in Seattle, Wash., and in 1920 was in the valuation department of that railroad, stationed in Chicago. Probably because of his experience he then became, first an adjuster with Railway Underwriters there, and later assistant manager; he retired in 1955 to Rye Beach, N.H. . . . Through the Phillips Exeter Bulletin the Alumni Office recently learned of another death, that of **Shields Burr, I**, who died March 30, 1960. With us only freshman year, when his home address was South Natick, Mass., he was first employed as a designing draftsman by D. H. Burrill and Company, manufacturers of dairy machinery in Little Falls, N.Y., then for a few years around 1913 as mechanical engineer and master mechanic with Hood Rubber in Watertown, Mass. By 1915 he was in Bristol, Conn., as general superintendent with J. H. Sessions and Son, moving out to Warren, Ohio, for a few years with the Aetna Foundry and Machine Company. By 1920 he had an office as industrial engineer in Newton Highlands, and by or before 1925 had become vice-president and general manager of Burr Foundry and Machine Company in Keene, N.H.; a few years later the office was on State Street in Boston when he was president of that concern, as well as the Granby Manufacturing Company. He had evidently retired by 1940, as his address then was Newtonville, and early in 1957 he had moved to Lowell. Although Shields Burr attended M.I.T. for only our freshman year, he has nevertheless been a loyal classmate, paying dues and attending the reunion at Powder Point in 1920, and in 1926 being one of the 41 at Boxwood Manor in Old Lyme. In 1911 he married M. Edna Hassett, and I believe they had one son.

We regret to report yet another recent death, that of **Louis Hillman Tripp, II, S.B.**, on September 11, 1963, reported to the Alumni Office by Mrs. Tripp, to whom a note of sympathy has been sent. Louis was born June 11, 1884, in Westport, Mass.; attended B.M.C. Durfee High School in Fall River; was a member of our tug-of-war team both years, and of the M.E. Society. His thesis was "A Report on Heating and Ventilating in the Imperial Diet in Berlin," with **E. L. Wilson**. Except for a few years around 1925, his entire business life was spent in Washington, D.C., and all in federal service, initially as heat and vent draftsman in the supervising architect's office of the Treasury Department; then for several years as sanitary and heating engineer, office of the quartermaster general. For a couple years during W.W.I. he had the rank of major, Q.M.C., being head of the plumbing and heating section "responsible for design, plans, specs, and estimates for heating, plumbing, cooking and baking equipment for camps, cantonments, hospitals, and terminals." For a few years around 1925 he was with the Kewanee Boiler Company in New York City, then returned to Washington with the Veterans Administration, becoming

director of construction by or before 1935. Since retiring early in the 1950's he has been living, to quote from his letter, "in an old house" on Hix Bridge Road, in his old home town of Westport. Louis has had few if any contacts through the years.—**Edward B. Rowe**, 11 Cushing Road, Wellesley Hills 81, Mass.

'07

In the January Review, the notice of **John Kimball's** death was recorded as occurring on October 19, 1963. An interesting letter from his wife included the following additional information. After graduation in 1907, he went to work for the Pennsylvania Railroad. Later, he came to Boston and worked for the Hood Rubber Company in Watertown and then joined the Stone & Webster organization. After working for them 35 years, he retired. There was not enough activity in retirement for John, so he joined the Charles T. Main Engineering Corporation, and remained with them for 11 years. Here he was in charge of the structural section of the Transmission Group of the St. Lawrence Power Project. John married Edna H. Herrick, of Georgetown, Mass., who survives him, together with five sons and six grandchildren. . . . Our beloved secretary, **Bryant Nichols, II**, died nearly five years ago on January 9, 1959. Since that time, his widow, **Elsie Fogg Nichols**, has continued to live in Whitinsville. She passed away suddenly on November 24, 1963. Funeral services were held in Whitinsville, and burial was in the family lot in Central Cemetery, Randolph, Mass. She is survived by three sons, two daughters, eight grandchildren, and four great-grandchildren. I wrote a number of letters, telling of Elsie's death, to Tech men with whom the Nicholsons were socially intimate when they lived in Auburndale, Mass.

Ed Lee, I, has been visiting in Marathon, Fla., where one of his daughters is living. This daughter has a married daughter with three children. This gives Ed three great-grandchildren in Florida, and he has two more in Connecticut, or a total of five. I would like to hear who, in '07, has more than five great-grandchildren. . . . I wish all '07 members would read over the last paragraph of my notes in the December Review. So far, only two people have felt the urge to feed the 1907 Postage and Printing "Kitty." Thanks to **Tucky Noyes** and **Ed Lee** for checks. As the "Good Book" says, "Go thou and do likewise."—**Philip B. Walker**, Secretary and Treasurer, 18 Summit Street, Whitinsville, Mass.; **Gardner S. Gould**, Assistant Secretary, 409 Highland Street, Newtonville, Mass.

'09

Because of a change in the date of Alumni Day it has become necessary to modify somewhat our plans for the 55th Reunion. The New Ocean House had reservations for us during the weekend of

June 5-7, but when Alumni Day was changed to June 15, we learned that the hotel had capacity-house reservations that weekend up to Sunday morning, June 14. Since early summer the Reunion Committee has been considering several plans and has searched for a meeting place elsewhere. However, the New Ocean House, which has been most cooperative and offers so many advantages, advised us that they could take us beginning Sunday morning, June 14. At a meeting of the Committee, held at the Faculty Club on November 19 at which John Davis, Chet Dawes, Francis Loud, Art Shaw, and George Wallis were present, it was decided that it would be advantageous for us to accept this offer. We felt that a single day would be ample for us all to become acquainted again and conduct our several interesting discussions. A private room for headquarters will be reserved for us all day and we will have luncheon and dinner in private dining rooms. By mid-afternoon rooms will be available for everyone. For those who wish hotel accommodations for Saturday night, there are two excellent motels right nearby. After breakfast, June 15, we classmates with our ladies will depart for the Alumni luncheon in the tent at M.I.T. More detailed information will appear in subsequent class notes and will also be sent through the mail. Now everyone can begin making plans to attend.

We have learned that **Tom Desmond, I**, is the author of an article in the January, 1964, issue of the 'Journal of the National Retired Teachers Association,' entitled, "NRTA Notables." . . . The Alumni Office has just notified us of the death of **Edwards W. Barnum, II**, at San Diego, Calif., on July 5, 1962. Our records show that he changed addresses often and to many parts of the United States. For example, he lived in Denver, Butte, Philadelphia, Corpus Christi, Los Vegas, and since 1949 in California, being in San Diego since 1953. At one time he lived in Chile.—**Chester L. Dawes**, Secretary, Pierce Hall, Harvard University, Cambridge 38, Mass.; Assistant Secretaries: **George E. Wallis**, Weymouth, Mass.; **Francis M. Loud**, 351 Commercial Street, Weymouth 88, Mass.

'10

I have just returned from a seven-week vacation to Europe. Upon my return to the office I found that my letters to classmates had produced results exceeding my most optimistic hopes. It will be necessary to have these letters distributed through several issues of The Review as they are far too voluminous to publish in one issue. But before proceeding to letters it seems expedient to give immediate news of classmates. From the Lawrence, Mass., Evening Eagle-Tribune, **Francis B. Silsbee** is cited as follows: "Dr. Francis B. Silsbee, a Lawrence native and retired chief of the electrical division of the National Bureau of Standards, Washington, D.C., has been selected for a national award. Cited by the Institute of Electrical

and Electronics Engineers, New York City, 'for his contribution to the international standardization of basic electrical units and their measurement,' Dr. Silsbee has received the organization's Morris E. Leeds Award in electrical measurement. The award was presented to Dr. Silsbee at the National Electronics conference in Chicago, October 30 by I.E.E.E. President Ernst Weber. Dr. Silsbee received the U.S. Department of Commerce Exceptional Service Award in 1956 for outstanding services to the nation."

Allen A. Gould writes: "It was very good to receive your class letter, and if I had not been so much on the move you would have had a letter back by return mail. Already I have gleaned news from the list you sent of living members of the class. As for myself, I am still not retired, in fact have in the last few years added to my usual activities as manufacturers' agent in the steel and industrial equipment fields. With a capable Case Institute chemical engineer to lean on, I now find myself warehousing polyvinyl pipe, fittings, valves and specialties for the nearby chemical industries. With the continual changes taking place, there is plenty to keep an oldtimer from getting in a rut! I also have been spending some time for the past 20 years as an officer of the Cleveland Steel Tool Company, representing my wife's family. It specializes in the manufacture of piercing punches and dies and is still going strong after 50 years. We caught the germ so common around here and have been pushing the overseas possibilities, particularly in England and the Common Market. In this connection we had a pleasant trip overseas this summer. We also had a trip to Lima, Peru, last Christmas but can't charge any part of that to business. My wife's sister and family live there. Incidentally her three teenage boys are here in the U.S. being educated. They make our home their headquarters and keep things from becoming dull. Over the years I have been quite active in M.I.T. alumni affairs in Northern Ohio, serving years ago as secretary and then president of the club, and more recently as a perennial member of the Nominating Committee. It has always been pleasant to have contacts with the younger graduates, but I could write a book on the problems of getting attendance at college alumni meetings. We have about four very good meetings here a year, but the attendance is far from what it should be considering the M.I.T. population of 400-500 alumni in the area. For the past 25 years my chief diversion has been sailboat racing, originally with Snipes and then with the I-21 Class at Mentor Harbor Yacht Club. This boat was developed in Maine by Hodgdon Brothers, is a 21-foot keel sloop and a beauty which has not had proper promotion. The season starts in the middle of May and continues till the middle of October. Usually the old man and his wife crew get up in time to reach the starting line. We usually have our vacations at Edgartown or in Maine and get some salt water sailing there. My winter avocation is painting in oil. Maybe one a winter, but when I retire I would like to work more at it—inspired by Ike and

Winnie! I have seen only one classmate recently. **Andy Fabens** spent a few days here, and his son Bruce was good enough to ask us over for cocktails. Both of Andy's sons, Bruce and Laurie, live here in Cleveland, have very busy families and are active in the M.I.T. group. Andy and Mrs. Fabens were working their way south to Delray Beach by easy stages for the winter."

Harold Lockett wrote: "Yours of October 1 did stir up memories and mostly very pleasant ones. The fact that I am among the 200 who are still alive is something to be very thankful about. I also congratulate you on being in the same group. Its hard for me to realize that I am actually a 'senior citizen.' One thing that kept me from feeling aged is that up until very recently we have had a rather young daughter around. Our only child is a girl not quite 24, who got married a little over a year ago and presented us with our only grandchild this summer. They now live in Cambridge; her husband is a senior at Harvard Medical, so sometime I may drop in to renew old acquaintance. There is no exciting news about the Locketts except that they are still married. I sometimes think that is some kind of a record. If you should ask what I do all day it might be hard to explain, but it seems to keep me busy." ...

Herbert G. Reynolds writes: "I hope your letter of October 1 may poke a lot of us into bringing you up to date on news of the class. I just checked and as near as I can make out it is almost nine years since I wrote. I retired on December 31, 1956, as manager of the Salt Lake City plant of San-Equip Inc. and in the Fall of 1957 moved here to southern California. We have two sons and one daughter, 11 grandchildren and one great-grandson. Our oldest son and his three children live about a mile from us. We celebrated our 50th wedding anniversary this year with a trip back East and visited relatives in Washington, D.C., Massachusetts, New Hampshire, Vermont, Rome, N.Y., Ohio, and Pennsylvania and managed to see 123 relatives, including our youngest son and his three children at Rome, N.Y. We manage to keep busy with yard work, upkeep on the house and are quite active in Church work. My principal hobby, aside from photography is HO model railroading. If you or any of the old crowd is in this vicinity I do hope you will ring me."

Albert K. Huckins writes: "This is to lend your effort a little moral support, if nothing else. Our last contact was the reunion in 1960. You may recall I retired from business in 1956, because our income was sufficient to live comfortably and quietly here in Rockport, and Clara's health was such that I could be of real assistance to her if at home. Although our activities were limited and at times she was quite ill, we had many happy times together until her death in July, 1962. I now live alone, but how fortunate I am to have my health, a nice home which I can care for easily, and my many interests in Rockport to keep me busy. Retirement is no problem as far as I am concerned. As to my family, I have a daughter, two sons and 10 grandchildren, affording me many interests. Jean (Mrs.

Richard N. Hawkes) is married to a man who successfully operates a modest-sized finance company in Great Barrington, Mass. They have one son, three daughters. George, a graduate of Syracuse University is with the N.E.T.&T. Co. At present he is manager of accounting for Rhode Island, residing with his wife, two sons and two daughters in Barrington, R.I. I say, at present, because about two years seems to be the limit before they move him on. Robert, a graduate of University of Massachusetts, is an aquatic biologist by profession. He is employed by the Chipman Chemical Company, Bound Brook, N.J., manufacturers of herbicides and pesticides, as director of field research in the Middle West, with headquarters in Chicago. His wife, Jean, is also a graduate of the University of Massachusetts with a master's degree in education. They have a boy and a girl. I should have mentioned that George's wife is a Syracuse University graduate. There you have it. Our church tower, which you so kindly co-operated in restoring, is secure. Now we are paying off the debt for a remodeled parish house."

James G. Tripp writes: "To condense 54 years of experience into a readable, let alone interesting letter is a task which I expect other 1910 classmates will find difficult. However, in response to your request, I write as follows: The reason I went to M.I.T. was to nourish an instinct for construction. My formal education ended in a Sabbatical leave in April, 1909, after Ralph Horn untoothed me in a ball game with a high inside pitch to my jaw; hospitalization, recovery and I took off to California in May, 1909; headquartered at Los Angeles. I got into the construction business for myself; studied law; became prosperous enough to support my recently widowed mother along with my younger brother and sister; married, and found myself unable to return to M.I.T. All of that generation, except my wife, are now dead; my mother passed away at 96 in 1960. In retrospect, one thinks of failures and lessons learned thereby; my failures and disappointments in business have been devastating, but each result has been overcome as occasion befell. Failures in construction have been minor; successes have been many and gratifying. Except for work in World War I building military installations and World War II Trinidad Naval Base, Electric Furnace plant in Chicago and concrete ships at Savannah, my principal work has been pipe lines, dams, power houses, tunnels, town sites, approach roads and railroads and so on. My only claim to fame is that I am the only man in the world who has physically built every type of dam, by virtue of the Coolidge Multiple Dome Dam in Arizona, the only structure of that kind. All of the above work was completed in 1929. In 1930 I managed construction for others and myself including a large section of the River Des Peres sewer in Saint Louis. In 1931 I became head of the construction department of Merritt Chapman & Scott and its subsidiaries as vice-president and managed the construction of dredging in the Great Lakes area, bridge foundations in Connecticut, piers in Boston, locks and dams on

the upper Mississippi River and many types of miscellaneous structures. The advent of the 'New Deal' crashed around our heads and caused monumental fights against the Government, most of which we won, but the headaches and heartaches over a period of 6 to 13 years I want to forget. On January 1, 1937, I opened my own contracting business in New York City and by 1940 I had lost the savings of a lifetime. I was too small for the 'Big Time' in New York; did not understand the new economics and labor connections and the politician's long-arm. I grew up in the business in Big Time West of the Mississippi where the rules of the game were old United States, not Washington New Deal. Old friends, employers and employees, old job partners importuned me to help on bidding; advise on equipment purchases and maintenance; management and organization, and I found the fees offered and paid very attractive. I, therefore, liquidated my construction business and except for World War II work as an employee, I became a construction consultant to contractors the world around and at this writing and age continue to be. In measuring satisfactions, I value my successful marriage, my Cornell educated son, a Major in War II, and his success in construction; and his four children born of a most beautiful daughter-in-law. My long life of adding to the wealth of the United States is my second greatest satisfaction. The boon of the Almighty of health and energy and ability, enabling me to still perform, is a constant satisfaction which I am pleased to feel as compensation for a life not wasted. My affiliations as a life fellow American Society of Civil Engineers; my membership in the Moles and the Engineers' Club in New York, give me fellowship with my peers in the way of life I chose. My Beta Theta Pi and Masonic connections are appreciated. My contributions to the literature of construction has given me some pride of authorship and the feelings of satisfaction are warm. My interest in the atom and the new mathematics born of my contact with missile contractors' problems; my interest in construction law provides daily cultural provender to brighten the days ahead in old age and retirement, if that day ever comes before I go. My interest in M.I.T. continues high: Our 1910 monthly meeting in New York City with Fred Dewey, Carl Benson, Schliecher, Larry Hemmenway, and others, is a pleasant time looked forward to. We all hope to go to our 55th in 1965. Thank you for your long service as class secretary."—**Herbert S. Cleverdon**, Secretary, 120 Tremont Street, Boston, Mass.

'11

I have learned from **Cleon Johnson** of the death of **Donald R. Stevens, II**, in Ridgewood, N.J., on November 23, 1963. Don was born at the home of his grandparents in Richland, Mich. His parents' home was in Massachusetts and Don prepared at Brookline High. One of our most prominent members in class and Institute

activities, he was elected class president in his senior year and held that office for nearly 50 years until poor health necessitated his resignation. After graduation he spent four years with Peerless Motors and six with Goodyear Tire before he joined the Okonite Wire and Cable Company as factory manager. When he retired in 1952 he was executive vice-president and director. In addition to several other directorships, he was active in civic affairs and was a delegate to the national convention which nominated Eisenhower for president. Don is survived by his wife Lois, his mother and brother, a daughter, two sons and four grandchildren. . . . Two additional deaths are reported by the Alumni Office. **Roger M. Spencer, II**, died on February 26, 1963, and **Herbert P. Joyce** on May 10, 1963. Both were with the class only a short time. Roger was connected with the airplane industry for many years. He was with Pratt and Whitney at Hartford, Conn., and Republic Aviation at Long Island, N.Y. Early in 1959 he retired to St. Petersburg, Fla. Herbert was in the drug business in Readville, Mass. . . . A picture of Cleon Johnson, X, heads a clipping received from a Trade Press Bureau which reads: "C. R. Johnson, founder and first president of the Spencer Products Company, Bloomingdale, N.J., has retired after 15 years with the firm and 52 years in the rubber industry. Mr. Johnson graduated from M.I.T. in 1911 with a B.S. degree in chemical engineering. He then joined the Goodyear Tire and Rubber Company, becoming chief chemist and later development manager. During the succeeding years Mr. Johnson was technical director for Godfrey L. Cabot, Inc.; a sales representative for the Philadelphia Rubber Works Company; and technical director for the Continental Carbon Company during World War II, he served with the Ridbo Laboratories, and in 1948 bought out their interest in rubber chemicals to found Spencer Products. He is a member of the Division of Rubber Chemistry of the American Chemical Society, and of the Division's 25-Year Club." . . . From Palma de Mallorca **Leroy Fitzherbert, XI**, writes: "For the fifth time, Marjory and I are enjoying the mild climate of Mallorca after having visited Greece, Yugoslavia and Italy earlier. This trip is rather special, being in celebration of our 50th wedding anniversary. Before we sailed we had a family party at the home of my oldest son in Maine which was quite an occasion and will long be remembered. . . . We have found that many changes have taken place in Europe since our first trip and that it is as expensive over here as in the U.S. But this island provides a desirable all year climate and some delightful scenery. We plan to be home in Wellesley by Christmas."

Harry R. Tisdale, V, writes from Florida: "I haven't any good news to pass on. I have been confined to quarters since last February taking care of Grace. A visit to the University Hospital at Gainesville last February showed a bone impairment, and Grace has been confined to her bed since then, with no use of her legs. We have a practical nurse here in the morning, but I have to take over the afternoon and night shift, so that keeps me out of trouble. I

cut a little grass in the mornings and drop a line off the sea wall when the fish are in the proper mood. . . . We had a semi-alert on the hurricane and I made arrangements to evacuate if necessary but the call never came. So, I carry on. P.S.: **Phil Caldwell** phoned me from Nakomis and I expect to see him some day soon." . . . **O. W. Stewart** and Gertrude made a Thanksgiving week circuit of the families of their sons, visting Chapel Hill, N.C., Bethlehem, Pa., and Cos Cob, Conn. At Chapel Hill they met **Guy True, I**, and **O. W.** reports: "Guy True is one of the few unretired 1911 men in engineering work. He is on the staff of the William C. Olsen Company, consulting engineers of Raleigh, N.C. Gertrude and I had luncheon with him at the Carolina Inn on November 20. He seems in top spirits and sends his greetings to all who remember him. My memory of him goes back to freshman days when several of us 1911 men ate our luncheon under the old Walker Building stairs."

Changes of address: **Wesley T. Jones**, 1925 South Atlantic Avenue, Dayton Beach, Fla.; **Ernest J. Batty**, Corporation Road, Box 487, Dennie, Mass. Ernest wrote: "I get tired of doing nothing so every once in a while I get a new job. I am working in Cambridge at the present time." . . . A word of thanks to those who helped by contributing material for these notes.—**John A. Herlihy**, Treasurer and Acting Secretary, 588 Riverside Avenue, Medford 55, Mass.

'12

I received word from Mrs. **Harold H. Sharp** that her husband passed away early last year at their home at 441 Vanderbilt Road, Asheville, N.C. Harold retired in 1957 and built a home in Biltmore Forest near Asheville. Part of the project was a greenhouse where he grew orchids and became much interested in propagating those exotic flowers. During the last two years he had to give this up because of poor health. . . . **Kenneth Cartwright** passed away at his home at 55 Brookside Drive, Hamden, Conn., on September 22. Ken had been retired from the New Haven Railroad for several years and enjoyed good health until the last few months. . . . **John Lenaerts** has made his annual move from Pocasset, Mass., to his winter home at 1101 Harbor Drive South, Venice, Fla. Both John and Mrs. Lenaerts are in good health and would be glad to welcome anybody driving through.—**Frederick J. Shepard, Jr.**, Secretary, 31 Chestnut Street, Boston 8, Mass.; **John Noyes**, Assistant Secretary, 3326 Shorecrest Drive, Dallas 36, Texas.

'14

Each year it is a pleasure to receive a note from **Thorn Dickinson** telling us he is back at Broadway and 55th Street again. For about six months, he wanders through the Adirondack Mountains, cutting or blazing trails, usually alone ex-

cept for the bear, deer, raccoon, beaver and a host of birds, large and small, he meets. Thorn graduated from Williams College before attending M.I.T. He plans to greet us at our 50th Reunion in June. . . . **Bert Hadley**, Chairman of the Board of Trustees of Middlebury College, has been quite busy this fall installing a new president. That will not, however, prevent us from meeting him at our 50th. Like Dickinson, he graduated from college before attending M.I.T. Bert attended Middlebury College, then graduated from M.I.T. with us.

Your secretary writes little 'bally-hoo' in these class notes, by comparison with some other class secretaries, because we have fewer members subscribing to The Technology Review. We are leaving some of this, therefore, to **Ray Dinsmore**, whose 50th Reunion notices are sent to all the class, as are those of **Herman Affel**, our class agent. Quite aside from Class News, much interesting data appears each month in The Review. Any one making a \$5 contribution through the class agent receives The Technology Review for a year. But like the minister's sermon, this message reaches only those who are already in church. It is those outside, that is the non-subscribers, we would like to reach in The Review, so that they may learn what is going on at M.I.T.

The class roster which has been sent to you will be added to or amended with any new addresses received by the Alumni Association. Four new ones have just arrived: **Starr W. Stanyan**, Center Harbor, N.H.; **Charles H. Wilkins**, 20 Keene Street, Bedford, N.H., have left Greater Boston and retired. **Donald DesGranges** has become less active and is now at 33 Reeves Road, Marshfield, Mass. **Benjamin T. Rauber** has a short address change to 29 Broadway, New York, N.Y. . . . **Matthew Harrison**, formerly of 1900 El-nora Drive, Pleasant Hill, Calif., is reported to have passed on, but date of death and other details have not yet been obtained. Harrison came from Winchester, Va., and prepared at Shenandoah Valley Academy and the University of Virginia. He was a Delta Phi and served as a second lieutenant in the Air Corps in World War I.

Edmond W. Bowler died on October 28, 1963. Ed taught at the University of New Hampshire for 40 years, much of the time as head of the Civil Engineering Department. He prepared for the Institute at Dedham High School; he leaves no immediate relatives. At the University he was a member of Phi Kappa Phi and had served as president of the local chapter. At M.I.T. he had served two years on the Relay Team. He was a first lieutenant of engineers during World War I, serving much of the time in Panama, where he was acting commander of U.S. troops during the occupation of the City of Panama.—**H. B. Richmond**, Secretary, 100 Memorial Drive, Cambridge 42, Mass.; **Charles P. Fiske**, President, Cold Spring Farm, Bath, Maine; **Herman A. Affel**, Assistant Secretary and Class Agent, R.F.D. 2, Oakland, Maine; **Ray P. Dinsmore**, 50th Reunion Chairman, 9 Overwood Road, Akron 13, Ohio.

'15

Hear ye—only 17 months to our big 50th Reunion at M.I.T., Cambridge and somewhere on the Cape, June 11-14. The Class Executive Committee is meeting this spring, so you will soon have definite news of our plans. Just figure on being here with all the old gang (what's left by that time). **Al Sampson** is already working on some clever and unusual items for the program. . . . From Clyde, Ohio, **Stan Osborn** sent us an aerial picture of the famous Ohio Turnpike—it looks like a long, white snake slithering in the green countryside. . . . **Henry Daley** saw **Ed Whiting** at a Westinghouse Veteran's Dinner in Philadelphia in October. Ed has lost weight and recovered successfully from some recent serious illness. Keep it up, Ed. . . . In addition to their annual holiday poem on their Christmas card, Helen and **Phil Alger** this year sent a Newsletter on the colorful letterhead of the "Loon Lake Conservation Association, Inc.," Rumney, N.H., describing the activities of their truly remarkable family, 26 of whom attended a family reunion in August there in New Hampshire. . . . **Dix Proctor**, an active and loyal son of 1917, is a good old friend of Fran's and mine and one of our reading public. After his Boston visit in the Spring of 1963 for a physical check, he and his Vi left for a three months' cruise and tour of Northern Europe and Scandinavia. We would like to figure out what Dix does for a living and how and when he does it. Ah, me! . . . During the past fall and winter, our many social contacts and visits with our many classmates and their lovely families in and around Boston kept the flame of these fine old friendships glowing warmly and brightly. Long may it burn! . . . While visiting in Boston recently, **Hank** and Virginia **Marion** had a long talk with us. It's good to know they are in excellent health and enjoying their retirement with motor travels everywhere. . . . When you are reading this column Fran and I will be afloat on the "Gripsholm" for a 38-day cruise to the West Coast of Africa then across to the East Coast of South America and finally north thru the islands. We'll be thinking of you all. Plan on our Fiftieth!—**Azel W. Mack**, Secretary, 100 Memorial Drive, Cambridge 42, Mass.

'16

Our worthy President, **Ralph Fletcher**, starts us off with this interesting bit: "I'm pleased to report that my masseur, whom I had daily while skiing recently in Switzerland, lost a bet, after having asserted to some friends that I was in exceptionally fine physical health for a man of 60. The news arrived on my 68th birthday, and we are all having a good laugh about it. I think this is the nicest birthday card I have ever had." Ralph also reminds everyone of the dates for the next reunion, June 12, 13, and 14, 1964, at the

Chatham Bars Inn on the Cape, and urges all to make a special effort to be on hand for our 48th. . . . Reports indicate that the attendance at the December 5 1916 New York luncheon at the Chemists' Club was the largest for some time: Joe Barker, Jim Evans, Henry Hunter, Mac McCarthy, Herb Mendelson, Francis Stern, Peb Stone, Bob Wilson, and Will Wyld. We don't like to make comparisons but a reasonably accurate count by our reporter, **Jim Evans**, shows that only five Seventeeners were there: the Messrs. Littlefield, Loengard, Morton, Neuberg, and Proctor. We might add that we don't usually make comparisons!

Ralph Fletcher also sent us a copy of a letter he received from the Alumni Association in October indicating that **Izzy Richmond** had just been made an associate member of the Alumni Council. . . . Back in November, **Bill Leach** wrote that he had attended the University of Texas versus Texas Christian football game where he saw and spoke to "LBJ and Ladybird" just a week before they became our new President and First Lady. "He is very likeable," says Bill. The Leaches are looking forward to a trip to Hong Kong and Japan leaving San Francisco on January 17 on the "S.S. President Wilson." They expect to drive up through Los Angeles and hope to drop in on **Irv** and Kay **McDaniel**. Bill is making excellent progress in his recovery since his accident, and says, too, that **Bob Wilson** is coming along very well indeed since his slight coronary late in October. . . . **Frank Darlington** spent the summer (June 12 to October 25) at his summer home on Squaw Island, Hyannis Port. He notes: "This summer the President established his Summer White House directly west of us. So we were floodlighted, Secret Serviced to the nth degree. On the other side we had the Senator Kennedys. . . . Two white telephones with pictures of the White House (Washington) on them enabled us to arrange for the admission to Squaw Island of callers and guests at our parties. Otherwise the summer was full of boating, swimming, cocktails, picnicking and no golf or tennis (I've never been a golfer and arthritis—mild—has taken away my tennis)."

In a letter from Greece in September, **Irv McDaniel**, commenting on the 47th Reunion picture, wrote: "Wish I had been there especially to see Gene Lucas, Dave Patten, Dina Coleman, and Hen Shepard. Guess we won't be able to contact the **Francis Sterns** in Italy. Have just had letters from Ralph Fletcher, Len Stone, and Jim Evans. Enclosed is a very rare piece of Romanian money. I hate to think how much it cost me. Auction it off and if you get 1¢, take it and put it in the Class Fund." And back in Austria, Irv had an interesting account of a castle visit that he said was "the thrill of Katherine's life." Says Irv: "For this thrill, we spent a night at Schloss Rabenstein, Frohneiten. They have only four guest rooms and you have to make your reservations in advance (use our names). The castle is not open to the public and they mail you detailed instructions on how to find the place. You go up a hill on an unmarked dirt road, only to find that the gates of the castle

are closed. Katherine managed to find the bell chord—and what a clatter—the gates opened—and there were our hosts, Dr. and Mrs. Sigurt Reininghaus, waving us in with a regal welcome. We were the only guests so we could have our choice of the four bedrooms. The prize room is on the third floor where they have a life-size painting of a Lorelei. They have a thousand legends up there. One is that Lorelei at midnight gets out of her frame and sits on the man's bed. They have old, old drawings to prove it. When Katherine heard that, we took the room on the floor below. They have an old four poster bed, heavily carved including Adam and Eve 'au naturel.' I am glad to report that I had a fine night's sleep. No pictures crawled into bed with me and Lorelei did not play her harp and sing (and there were no yellow hairs on my pillow; I hear she molts). I guess I was just lucky. But to spend a night or two there is an experience you will never forget. The castle is filled with heirlooms—an armory, old family portraits, etc. In the 1600's they had a quaint custom; if a man had three wives, (two of them dead of course), when he had his portrait painted he included all his three wives; it is easy to see which one he liked best. But spend a night there." Irv and Kay wound up their long European trip late in October, sailing from Genoa on October 26, stopping at Venezuela and Canal Zone, and arriving home in Los Angeles on November 26. Irv's last letter in October tells of the thrills he had in final viewings of works of art. He notes: "Shall we continue our Michelangelo Pilgrimage? If you are in Florence four or more days, you must drive to Fiesole, an old Etruscan city (700 B.C.). This is where the Contessina (Agony and Ecstasy) lived when she had to flee from Florence. It is gorgeous—old villas, Roman baths, ruins and theatre, Etruscan-Roman temple, convent of San Francesco, etc. And then at noon on an outdoor terrace you have lasagne with a view of Florence below. Then you drive up the mountain to Settignano where Michelangelo spent many weekends with his friends the Topolinos. . . . And we say goodbye to his favorite city from his monument across the Arno River at the Piazzale Michelangelo. What a magnificent view!" The McDaniels' new address: 2701 Wilshire Boulevard, The Bryson, Los Angeles 57, Calif., in case you wish to say thank-you for their many contributions to our column. We have more, too.

Henry Shepard's favorite hobby is still old automobiles. "My 1914 Stanley Steamer performs beautifully and it is easy to see why they were so popular in their heyday. I have a 1910 Cadillac Gentleman's Roadster that I have nearly finished restoring after six years of work (off and on as you have to spend lots of time looking for parts). It is a real beauty. However, my pride and joy is a 1912 Chalmers 30 Pony Touring car which is an exact duplicate of the Chalmers demonstrator which I owned in 1912 when I was agent for Chalmers cars, while I was in high school. It is in excellent shape and has only 19,578 miles on the speedometer. It was put away in 1915 and stored until recently. The man who had it did a fair job of restoration but there are many



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things that need to be done before it performs as it should. I recommend old cars as a way to occupy spare time!"

Just a bit more about the **Steve Whitney** house, mentioned in last month's column and headlined in the Boston Sunday Herald of October 20. The headline: "Love, History, Tragedy in Watertown House—Washington Slept; Poet Spooned—Drive on to Save Mansion." And: "If you drive through Watertown Square this weekend, you will see the stately brick Whitney house, dating back to 1710, floodlighted at night and teeming with activity. It's all a part of a grand community effort to save this historic house. The land has been sold; now the whole town headed by Robert Hagopian, Town Treasurer, is determined to raise \$25,000 to move the house and save it, the heirs and executors having given it to the town. George Washington did sleep here when his headquarters were across the street. James Russell Lowell courted his Maria and married her here. The Hollingsworth and Whitney Paper Company was started in the brook nearby." And a picture "of this handsome brick house of history and romance," where many '16ers stopped off with Steve in years gone by, will be posted on the reunion bulletin board. . . . In November, **Hovey Freeman's** place as president of his company, was taken over by his nephew, Roger Freeman, and Hovey became chairman of the board. He is now planning to take things a little easier, having put in 43 years with the company. . . . Ralph Fletcher's ankle, broken last winter while skiing, must be doing all right now, for, we understand, he did some dancing in London in late October on his way back with Sibyl from a 'shoot' in Spain.

Now we have more about **Vertrees** and Sylvia **Young's** safari and rock-hunting trip to South Africa. Here are bits from Sylvia's letters—letters of a quality delightful to many Mr. and Mrs. Sixteens. First: "The news, to me, that my safari letters are being sent to so many friends, has given me a slight complex. Really, Vertrees should be doing this job, but he is too busy most of the time, scrubbing his rocks, getting them marked and packed and shipped home. His specimens are truly beautiful and he has not had a disappointment so far. Everyone treats him as an authority and is so gracious and generous with information and gifts of minerals. No diamonds, though! . . . Upington is on the edge of the Kalahari Desert. As we near it, we are climbing quite high, and, again, we drive through miles and miles of white and yellow, tiny daisies. Their faces always turn toward the sun. Sand dunes appear. The air is cool but the sun is very hot. We stopped along the roadside many times to look for rocks. V.Y. has a book with him, which he carefully compiled while we were on the ship, which guides him in the different areas to the specimens that he wishes to find. It is amazingly accurate. . . . We approached Upington through hundreds of native houses which were on either side of the road. We were registered in the Grande Hotel. I cannot find it possible to criticize anything in these African towns. It seems so amazing to me

that things are as clean and nice as they are, even if the rooms in the hotel are small, cell-like places and the baths are public and often far from one's room; even if there is little in the way of furniture and only a cord hanging from one string, with a light globe, attached to it. Even if there is no heat and the nights and mornings are freezing! At least there are warm, clean blankets and, best of all, hot, hot water bottles." Back in Johannesburg: "Tuesday we called at the Boulevard Hotel to see Mrs. Brady, the wife of the American Air attache. V.Y. had been corresponding with her for many weeks. She is a 'rock hound.' Her home had been in Seattle. I was glad I went to call on her with V.Y., for she was young and very beautiful. To make it worse, she was smart and could talk geology!"

Driving to Rustenburg: "As we drove along, our driver, Dan, kept up a flow of conversation—the most fantastic tales of his life and the lives of natives. Dan grew up in the 'bush.' He fought in the first and second world wars and was badly wounded in both. Some of the tales he told me about the native's treatment of various diseases I will pass on to you. You might try them out! (1.) Never eat eggs for they contain live animals. But if you have a stomach ache, grind the egg shells very fine and eat them. (2) If you have an ulcer, take the skin of a pomegranate, dry the skin, cook it in boiling water. Then drink a little of it for a couple of weeks—a small amount each day. It is bitter, like alum. (3.) For heart trouble, dry the skins of tangerines and eat them every day for a month, but never eat any fatty foods. (4.) If you are car sick, take a piece of white blotting paper—it must be white—and pin it on a garment and place over the navel—not against the skin. But never, never put the white blotting paper on your bare skin for if you do, you will faint." And in Salisbury, South Rhodesia, just before leaving by air for Rome: "How I will miss the wide open spaces—the great silences, the catalpa call of the doves, the wild flowers, the hundreds of mountains, the bush country—both the low veld and the high—the Jacaranda trees and flat topped acacias, the mimosas and the pines, the poinsettias and the thorn 'wait-a-bit bushes,' the grey sage and blooming aloes. I will miss the native villages, the quaint small town hotels, and remember our amazement over the large cities. I'll miss the rock hunting on mine dumps and roadsides and in far away places, the descent into mines, the tea in managers' offices, the sunsets and the sunshine. I will miss the tall giraffes, the herds of zebra and the great, barking baboons, the early morning tea brought into our room by barefoot 'bedroom' boys. Above all, I will miss the wonderful people we have met and loved, and the chance to listen to the apprehensions of both black and white natives."

Jim Evans, in between his substitute teaching in Paterson (N.J.) High School and substitute heading the science department, keeps the old pen busy and reports news and bits from a number of You-Know-Who's who went to school on Boylston Street. He reports receiving from **Hy Ullian** a photo of a "handsome gen-

tleman," as Hy put it, (of JME; who else?) taken at the reunion in June and a hope that Jim was as full of vigor and spirit (singular) as ever. **Willard Brown** reported to Jim in November that he had just been down to Washington "casing some hotels as prospective sites for the International Commission on Illumination's 1967 Lighting Congress." Said, had he known of Bob Wilson's illness, then, he could have "at least talked with the hospital and maybe seen Bob." Jim says **Don Webster** writes from a new address—446 Davisville Road, E. Falmouth—but the same house. The Websters, in October, took a trip to visit their two sons in Rochester and Binghamton. In reference to the new location for the New York monthly 1916 luncheons, The Chemists' Club, 52 East 41st Street, Don notes he used to belong to the Club in the 20's when he lived in New York. Also, **Dave Patten** said he might just be at the next luncheon for: "a trip is overdue. I have a couple of business meetings coming up, and the timing is right." Dave, referring to Irv McDaniel's recent letter, indicated he would keep out of Romania, but that "King Carol and Lupesque were neighbors of ours when we lived in Portugal. In fact we exchanged dinner dates on infrequent occasions." **Cy Guething** to Jim: "We expect to return to Harbour Island again this winter and are toying with the idea of spending Christmas there with the juniors." As for the December luncheon, a letter from **Will Wyde** in Stamford, Vt., asked for the exact time and place (12:00 noon, the Thursday following the first Monday of each month, Chemists' Club), for he expected to be in New York on the 5th of December. And **Francis Stern**, too, expected to be there, for he was to have a meeting in Philadelphia on December 4, planned to stay there overnight, and to drive to New York on the 5th.

Buck Bucknam writes from Auburn, Calif., where he is enjoying retirement. He asks a question that I have often asked him, namely: Have you heard from **Ed Jenkins**? It is getting to the point where we may not be able to get Ed to answer the question: How much was it we got in 1908 when we were making jigsaw puzzles for money? . . . **Rudi Gruber** is the next bit of 1916 activity. In Volume I, Number 1 of a new monthly magazine 'Science Reporter,' published in New York by the Friends of the New York Museum of Science and Industry, we find an article that reads: "Dr. Rudolph E. Gruber, a member of the Advisory Committee of the Council for Chemical Education, has just revisited a number of world-famous science museums, The Palais Des Descouverts in Paris, The Deutsche Museum in Munich, and Kensington in London. All are easily accessible to the metropolitan hotels. New additions to the Kensington Division of Science and Technology include audience-participation exhibits of chemicals derived from petroleum, and a number of new expositions of the uses of plastics and resins."

Here are a few comments on one of Sylvia Young's safari letters. **Theron Curtis**: "Very interesting, especially about Pirmasens, Germany, where I have an Army son at present." Jim Evans and Ed

Weissbach: "Will write Vertrees and Sylvia," and Ed writes further on travel in Germany: "Certainly brought back memories." **Bill Leach**: "I thought Sylvia's remarks regarding trying to convert them on pages 3 and 4 were classic and I had copies made. We agree absolutely." And **Phil Baker** expresses great interest in the McDaniel letters, noting: "They certainly impress one with his tireless treks and willingness to take the grief incident to so much moving around. In contrast, I am losing all desire to see or worry about how others live, but instead try to enjoy the pleasures and comforts of my own home and family. Let Europe come and see how we live."

And so the column comes to another close, with the reminder that the next reunion (the 48th, no less!) is not far away; it is to be held at the Chatham Bars Inn in Chatham on the Cape, June 12, 13, 14. In the meantime, help to keep the column full and interesting by writing a little but often.—**Harold F. Dodge**, Secretary, 96 Briarcliff Road, Mountain Lakes, N.J.; **Ralph A. Fletcher**, President, P.O. Box 71, West Chelmsford, Mass.

'17

Notes of happily spent vacation travels continue to drift in from classmates. Have you sent yours? The first this month is from **William B. (Bill) Hunter** from Kusnacht ZH, Switzerland: "I am now retired from the Singer Company and will be returning to the United States in December (1963) in time for Christmas with the children and grandchildren. We are going to leave Zurich and drive to southern France, stopping over with friends in Majorca for a week before getting on the boat at Barcelona for our return trip to the States. Doris and I have had a wonderful year-and-a-half here establishing the export organization for the Diehl Division of the company. We have had an opportunity to travel all over Europe, and it has been very interesting work and a lot of fun. When I return to the States, I shall be visiting my daughter in Windsor, Conn." . . . **J. R. Ramsey** of Plainfield, Ind., writes: "Mrs. R. and I are most appreciative of the privilege we had of spending four and one-half months in Europe last spring. We intended to go by freighter each way but the stevedore strike upset our plans going over, so we flew to Brussels. On the return trip, the Swedish American freighter had been leased to a Greek shipping firm so we came back on the 'Kungsholm.' We picked up a Volkswagen in Hamburg, toured leisurely and brought the car back with us. We covered all countries west of the Iron Curtain except Spain, Portugal, Ireland and Finland. We had three delightful days with Bill and Doris Hunter in Zurich. While in London I had to visit an osteopath. It was not Dr. Ward, and I did not meet Christine! I am still doing consulting work. Presently I am doing a job evaluation for my old firm, Public Service Company of Indiana. The general office is here in Plainfield which makes it very convenient, in fact

I walk to work." . . . The next is from **Duncan MacRae**, Bel Air, Md.: "Some of our classmates might possibly be interested in the fact that I recently attended the retirement exercises for Major General Marshall Stubbs (X-A S.M., M.I.T. 1939) at Edgewood Arsenal. The Chemical Corps is no more. Marshall Stubbs was its last chief. The name of the Army Chemical Center has been changed back to Edgewood Arsenal. A feature of the occasion was a cocktail party in the building some of our classmates will remember as the Officers' Club way back in 1918. It was attended by officers and civilians from far and near. It was most pleasant to see old friends. Some of them I had not seen since my retirement in March, 1953." . . . **Lew Sanborn** writes from Saugus, Mass.: "Time certainly slides by at an alarming rate. Over a year ago, I finally decided to retire and did so November 1, 1962, from the Converse Rubber Company. This was one of the most difficult decisions I have ever made. To sever relations after 43 years with one company is not easy, particularly since I enjoyed my work and the friendship of the many people with whom I was associated both within and without the company. I miss them all and shall ever be grateful for the kindness and co-operation shown by so many for so long. About three years ago, I was elected president of the local co-operative bank. This had always been a part-time position, and I accepted it as such. Before long, however, I discovered that while it by no means demanded full time, it did require more than I had anticipated. Retirement worked out nicely in this connection. It gave me more time that I could devote to the bank and yet did not involve me in details which would keep me chained to a desk. Consequently, after taking care of a few reorganization problems, Miriam and I took a trip to Europe in the spring. It was our first trip and one we had been wanting to take for a long time. We enjoyed it very much and investigated London, Paris, Naples and Rome. During the summer, we spent some time at our cottage on Lake Champlain, a place we always enjoy. With ample time to do odd jobs around the house, there is no hurry, for, after all, there is always tomorrow. As a result, the long list Miriam had prepared for me on retirement has remained untouched for a year and many additions have been made to it. We are trying to decide on another trip next spring but so far our ideas on where to go have not coincided. Oh Hum! as I said, time slides by."

Another classmate, **Henry F. Goldsmith**, of Jenkintown, Pa., died on October 27, 1963. Henry was founder and former president of the Thomas Holmes Manufacturing Company, makers of nylon netting. Henry graduated from the University of Pennsylvania in 1913 with an A.B. and after three years at M.I.T. received his S.B. with the class of 1917 in chemical engineering. After about a year in the Navy in World War I, he was discharged as ensign in Naval Aviation in 1919. . . . Our assistant secretary, and very active M.C. of the monthly class luncheons in New York at the Chemists'

Club on the first Thursday of the first full week of each month, urges all 1917'ers to drop in when they are in New York on that day. The November luncheon brought out Dick Loengard, Joe Littlefield, Bill Neuberg, Ray Brooks, and for the first time Bob Gannett. Bob advised that he retired from Curtiss Wright Company about three years ago and now mixes interior decorating with golf. The following attended the December 5 luncheon: Dick Loengard, Ed Aldrin, Bill Neuberg, A. R. Morton, Joe Littlefield, and Dix Proctor. The classes of 1916 and 1917, who have their luncheons on the same day, have engaged a private room for the use of both. . . . For those who make speeches, the following may be of interest: A speech may be compared to a woman's dress: (1) Long enough to cover the subject and (2) Short enough to make it interesting.—**W. I. McNeill** Secretary, 107 Wood Pond Road, West Hartford, Conn.; **C. D. Proctor**, Assistant Secretary, P.O. Box 336, Lincoln Park, N.J.

'18

There are generations of roses in a single bud because the function of any blossom is to produce a seed which will grow another flower. The sequence is equally true of the flower of our manhood, which is why Haydn Pearson wrote the following column called "Country Correspondence," published by the Boston Herald: "I wish that everyone could have shared the beauty of the scene with us that perfect day when I stood with **Saxton W. Fletcher** in the hilltop dooryard of his 600-acre farm. Rose Mountain made the eastern rim of the spectacular panorama; a bit to the south, Winn or Lyndeboro Mountain formed the center; and to the right was North Pack. It was one of those days that blesses us in the fall, just before the hills become a master painting—deep blue sky, a few slow-moving white clouds, and a breeze so gentle one could barely feel it. The hills were a symphony of rich greens; the distant fields were golden-tan with sun-cured grasses. Before us, in a field green with lush alfalfa, Saxton's herd of handsome, brown and white Ayrshires formed a picture postcard scene. When Saxton decided to retire in 1959, there was no problem about where to locate or what to do. He knew that when he resigned as president of the J. O. Ross Engineering Corporation of New York his home would be the ancestral place. It may be true, as certain historians and philosophers say, that we are still too young a nation to appreciate tradition, but I could feel the history of our town that day as I talked with Saxton and then rode over the fields and pastures with him. Greenfield was incorporated as a town in 1759, but the year before that Saxton's ancestor, Simeon Fletcher, received a deed signed by John Mason, a descendant of John Mason of the Masonian land grant. Five generations of Fletchers have lived and farmed this land. Saxton went to Phillips Andover and Massachusetts Institute of Technology. Like many ambitious lads, he went to the city. Very

early he saw the possibilities in air conditioning, and became one of the pioneers in this field. 'For years I had to travel a great deal,' he said, 'Louise never complained and she gets the major credit for raising our four children. I have been a fortunate man. Now we have 10 grandchildren and when the family returns for Thanksgiving, it makes me think of the old days when families were closely knit and family holiday gatherings were highlights of the year. Saxton Junior has a cottage here, and we have a guest cottage so we can put up the whole crowd without trouble. A man enjoys having his family around him.'"

At our age Robert Herrick's poem beginning "Gather ye rose buds while ye may, Old Time is still a flying," becomes more significant. **Harry LeVine**, for example, almost missed reunion because of arthritis caused by an infected molar which, when pulled, left a dry socket. The pain was so intense he could not sleep until utterly exhausted. But on Tuesday evening, June 4, things took a turn for the better. Two days later he left Detroit, driving all the way east in the rain. Harry had been a contractor who designed and installed heating, ventilating, and refrigeration machinery. One of his last jobs, before selling his business in 1961, was on the Wolverine Plant. This involved over two miles of copper tubing. The buds on his rosebush are four grandsons produced by his daughter in California. His son was graduated by M.I.T. in 1947 (Course II) and is a research engineer for Martin Marietta in Orlando, Fla. Harry's 12-room house is now for sale. He expects to spend four months in California, four in Florida, and four in a Detroit apartment. His 12 commercial tenants are no bother, but the one residential property is a continual thorn in his side.

Giles Hulseman let others plant the seed. He became a grain trader in Kansas City where he grew up. You might say his training in electrical engineering went against the grain. A short experience with a power company after the first World War strengthened and sharpened that feeling, so for a while he sold tractors. Then it was graphite. When this kind of selling turned out to be like a cultural hand-me-down that doesn't fit the decor, he turned to the necessary genius tinged with madness which is playing the stock market. In 1929 he made money. Drawing a friendly curtain over the next years, he has been a grain trader since 1933. Giles has two sons, four grandchildren, a good sense of humor with wrinkles around his eyes which were never eroded as a stream bed for a tear, and a sweetness in his face which testifies to a fulfilled life. As he says, "A trader cannot be a sadness hunter. He remembers the good trades and forgets the mistakes, but not their lessons." . . . **Pete Harrall** has done his gardening in several places. For 23 years he did experimental engineering for Western Union. Among other things he designed one of the trucks you see used by telephone repair men. For 18 years he was with Bendix Engineering, part of the time as a plant manager. In 1961 he retired as director of quality control. Beginning last August he took

over the business management of the Bryn Mawr School for Girls in Baltimore. Founded in 1886, this is an exclusive institution for southern buds of promise; Pete becomes the first male ever included on the staff; a bit of pioneering indirectly blessed by the fact that his wife is a descendant of Daniel Boone. The day before our 13th Reunion he took title to the farm where he still lives. We both remembered the honestly felt kinship of that reunion when we talked into the wee small hours. He wanted to attend our 35th, but was in California for Bendix. During our 40th he was a plant manager in the midst of one of those situations which refuses to simmer, but comes to a rolling boil. This time he refused to let anything interfere. Pete says he feels younger every day: "I've never been rich or famous, but I've almost always been happy. You don't worry much about things you can't do anything about."

Clifford Read cultivated his mind by studying mechanical engineering with us. He was never graduated because he went off to war, starting as a private and emerging as a first lieutenant of artillery. After the war he went to work for the Hartford Fire Insurance Company in the Atlanta office as an engineer. Then to the Dallas office where he worked 20 years. In 1939 he was sent back to Atlanta, was made superintendent of special risks, and stayed there 17 years. In 1958 he was given another promotion and sent to Dallas for three years. While in Atlanta he was president of the local M.I.T. Club for one term. In 1961 he retired after 42 years of service. Last August 21 he died, of a heart attack, after a brief illness. He is survived by his wife.—**F. Alexander Magoun**, Secretary, Jaffrey, N.H.

'19

Don Way, our president, has retired after 44 years of service with the Singer Sewing Machine Company. At the time of his retirement, Don was director of manufacturing and procurement in Singer's Latin American Division. . . . **Richard Holmgren** has sent a nice note from San Diego. After 19 years with the San Diego County Water Authority, Dick resigned in October, to enter private practice as a consulting engineer. His business address is 3511 Camino Del Rio. He says he hopes the change will give him more time to enjoy some things he has wanted to do for many years. This fall he enjoyed a vacation in Hawaii, and hopes to come to reunion. . . . I wish more '19ers would write a card like the one received recently from **George Bond**: "I keep very busy in my retirement with two Scout troops and a Cub pack to take care of, serving on the YMCA County Board, Sunday school superintendent, chairman of youth work for Kiwanis, etc. Also, manage to get in several trips a year. In the Spring, I visited Cape Hatteras with my older son, and in September we went out to the Wisconsin Dells, Iowa, the Keweenaw Peninsula in Michigan, Mackinac Island, Soo Locks, Sudbury nickel mines, Ottawa and the Thousand Islands. I now have six grand-

daughters and two grandsons."

U. S. Time Corporation, manufacturer of Timex watches, was launched in its present guise about 20 years ago. By the end of this year the company expects to have sales of about 480 million. Its phenomenal growth and the manner in which the company has achieved it is largely the work of **Joakim Lehmkuhl**. Mr. Lehmkuhl returned to Norway after studying at Harvard Business School and M.I.T., but he was forced to flee when the Nazis invaded his country. In this country he became associated with the Waterbury Clock Company, and after the war, the company developed some unusual production techniques and quality control methods, which enabled them to produce mass, low-cost watches, Timex. There was, initially, a great deal of sales resistance, but through quality performance and advertising, the resistance was overcome, and today over 2,000,000 units are sold every year. Mr. Lehmkuhl is president of the company. . . . Word has been received of the death on October 17 of **Mrs. P. B. Crocker** of Foxboro, Mass. . . . When you read these notes, time will be drawing near for our 45th Reunion, and we hope that a large number of our class will be able to make it this June. **Will Langille** and **Don Way** are making arrangements, and you should be receiving all the details shortly, if you have not already done so.—**Eugene R. Smoley**, Secretary, 30 School Lane, Scarsdale, N.Y.

'20

Henry Erickson died November 24 at his home in East Dennis, Mass. He had retired two years ago and before that had traveled throughout the world as a research engineer for Allis-Chalmers Company. He had been a long-time resident of Port Washington, Long Island, and was a Marine veteran of both world wars. He leaves his wife Marion, and the class extends its sympathy to her. . . . A welcome letter from **Bob Tirrell** says: "Two notes in the November Review prompt me to 'break silence' as it were. First, the change in **Frank Lawton's** address. Frank retired from Texaco last June, and the change was merely from his office address to his home address where he has been living for the past 20 years or so. . . . **Walt Sherbrooke** was the first classmate I got acquainted with in 1916, and we have seen each other frequently in business. In February, 1962, Chemical Construction Corporation promoted me from manager of the general engineering and drafting departments to consultant—effective retirement. I officially retired from Ebasco Services, Inc., On October 31, after 19 years with Ebasco and affiliated company (Chemico)." Bob says he has had a couple of major operations since retirement but is now in good shape. We all wish him many more years of health and happiness. He continues as a consulting mechanical engineer and his address is 140 Meadowbrook Road, Englewood, N.J. He is active in the M.I.T. Club of Northern New Jersey.

Harold Hedberg, whose promotion was mentioned in these notes recently, is living in Albany, N.Y., address, 13 River Hill. . . . **Frank Flett** died in October at his home in Toronto. Until his retirement, he had been manager of Truscon Steel Company, Ltd., and a former president of the Toronto Construction Association, and of the Builders Exchange and Canadian Institute of Steel Construction. He was given the honorary degree of doctor of science by the University of New Brunswick. He leaves his wife, Dorothy, and two daughters. In case any of you wish to write to **Bunt Murphy's** widow, Dorothy, her address is now 121 Verndale Avenue, Providence, R.I. . . . A happy and healthful New Year to you all!—**Harold Bugbee**, Secretary, 21 Everell Road, Winchester, Mass.

'21

Have you answered the letter from the Class of '21, asking your preferences with respect to an interim reunion this spring or in 1965 as a preliminary to our regular five-year reunion in 1966? If so, many thanks for your help. If not, please fill in the coupon and mail it right now to **Edouard N. Dubé**, 120 Tremont Street, Boston 8, Mass. Ed's loyalty and kindness in accepting the leadership of the interim reunion activity deserves your prompt action and complete co-operation, particularly if you favor a get-together this spring. Whether it's to be now, next year or not until the next regular reunion, the 45th, at Mountain View House, Whitefield, N. H., in 1966, is entirely up to your vote. Ed has sent a long letter, expressing his and Maida's wishes for our speedy recovery from the auto accident and bringing us up to date on the doings of his busy family of four married children and eight grandchildren, the latest of which is Master Andrew Adam Bochman, now about nine months old. Anne and her husband have moved to Weston, Mass., where he is principal of Weston High School and attending Harvard for his doctorate.

Ed continues: "We had a wonderful trip to Europe, leaving Boston for Vienna by plane August 30 and then continuing to Salzburg, Innsbruck, Liechtenstein, Zurich, Lucerne, Berne, Lake Como, Milan, Venice, Florence and Nice. Part of the trip was made by rail and, as a railroad buff of long standing, I was thrilled by the Trans-Alpine Express and the Trans-Europe Express as well as other beautiful and fast trains. At Nice, we picked up a car and headed for Grasse, Provence and other 'departments' in Southern France. At one hotel, our balcony looked out on the street down which General Charles de Gaulle marched alone after delivering a speech at the nearby town hall. This presented an excellent opportunity to take a picture of "le grand Charlie" until I noticed the presence of a soldier with rifle on the roof of the building opposite. Lest he misunderstand my intentions, I passed up the opportunity. The General may be stubborn and difficult but he is definitely not a coward. Our

trip included a day at the Cathedral at Chartres, which was all I had been anticipating for many years. Now back at home, we have several hundred pictures plus books to read and so many good memories."

Rubber World Magazine says: "**Miles M. Zoller** retired after a 42-year career with Eagle-Picher Company. He served as president of the Chemicals and Metals Division and was a member of the board of directors for 20 years. After receiving a chemical engineering degree from M.I.T., he joined Eagle-Picher as a salesman in the Pigment Division and became sales manager of the division in 1933. He was then promoted to general manager of the division and, in 1938, became a vice-president." Miles is making his retirement home in Florida. . . . **Winter Dean** reports a new home address which sounds as if it may indicate retirement: Dellwood, White Bear Lake, Minn. 55110. . . . **C. Harry R. Johnson** has moved his home from Monroe, Mich., to Huntington House, 17504 Fort Street, Riverview, Mich. . . . **Edward W. Noyes** has left Thompson, Pa., and now lives at 1410 S. E. 7th Avenue, Pompano Beach, Fla. . . . **Lester F. Rhodes**, retired U.S. Army colonel, has a new home address at 1280 Ellis Street, San Francisco, Calif. . . . **George Schnitzler** of Brookline, Mass., is at his winter home, 1410 Euclid Avenue, Miami Beach 13, Fla. . . . **Carl Thumim** says he has moved from Westbury, N.Y., and now lives at 3550 North Lake Shore Drive, Chicago, Ill. 60657. . . . A welcome note from **Armistead L. Wellford, Jr.**, of the Appalachian Power Company, gives his home address as 1323 College Avenue, Bluefield, W. Va.

Dr. Joseph L. Gillson, who retired in 1960 as chief geologist of E. I. duPont de Nemours and Company, has been appointed professor of geology at Arizona State University. Since his retirement, Joe has been lecturing on economic geology at M.I.T. He recently served as technical advisor to the American delegation to the Geneva Conference on Science and Technology for Underdeveloped Nations. Joe makes his home at 2133 La Rosa Drive, Tempe, Arizona, 85281. . . . **Raymond A. Snow**, Honorary Secretary of M.I.T. in Raleigh, N.C., represented Technology in the academic procession and inauguration ceremonies at Duke University on December 11, 1963. . . . Mr. and Mrs. **William J. Sherry** announced the marriage of their daughter, Anne Marie, to Rodger Paul Erker on August 3, 1963, at Christ the King Church, Tulsa, Okla. . . . **Ralph D. Cooper** is general manager of the Produce Terminal Corporation, 304 Exchange Building, Chicago 9, Ill. . . . **Paul N. Anderson** is president and general manager of the Dahlstrom Manufacturing Corporation, Jamestown, N.Y. . . . Supplementing the attractive 24-sheet billboards along New Jersey highways, **Jack Kendall's** Bekins Van Lines has instituted a series of clever full-page advertisements in New Jersey and metropolitan area newspapers, spelling out the many advantages of using Bekins service for household and industrial moving.

After turning out 17 popular books of non-fiction, **David O. Woodbury** has come

up with a novel of the contemporary world, "Five Days to Oblivion," (\$3.95 from Devin-Adair Company, 23 East 26th Street, New York 10, N.Y.) in which a new amateur sleuth, Dean Riam, head of the science department of an important technological institution, emerges from his academic retreat into the world of conspiracy and espionage upon the disappearance of his prize student, a young nuclear scientist involved in a top secret defense project for the Government. The action centers around a lake in Maine and there is a fascinating laboratory scene in which a computer solves an identification riddle. But here's Dave, writing from his home in Ogunquit, Maine, with his own version of the news: "It has been a very long time since I wrote with news. There has been some I didn't want to pass on, namely, being incapacitated with some disorder that keeps me at home without making it impossible for me to cut the grass, empty the garbage, cut wood, pay bills and write. I missed Alumni Day last June, not from choice but because it seemed like too much of a trip. Imagine! Me, who has traveled all over the map for years! For those interested, the ailment is beyond the comprehension of the doctors (of whom I have used up 14 to date) and is probably so esoteric they won't find out about it for years to come. India and I have found that home medication is far better. We have not been idle, either of us, having struggled through a summer of managing tenants in our earlier house—the one out front. We call it the Outhouse and this new one the Backhouse and everybody is perfectly clear about which is which.

"It might amuse you to know that I published my first novel on October 28, 1963. It is called 'Five Days to Oblivion' and is about a scientist who got kidnapped from a large technical college in Cambridge, Mass., and spirited away by the Reds. The detective is something new perhaps—the Dean of Science at the college. Devin-Adair, who is publishing the book, says it's a new slant on whodunits. Anyway, they get their boy back through his efforts and those of the FBI, after circumventing the State Department, which doesn't want anything done about the kidnapping for fear of annoying Moscow. If there is any similarity to M.I.T. or persons connected therewith, it is purely coincidental—the coincidence of my having been dragged there in 1920 by Dug Jackson and launched in 1922 with the help of Van Bush. Seriously, the book is an attempt to study the reactions to a serious crime that would be displayed by an institution of learning and its faculty. The publisher thinks it is 'one of the best suspense yarns I have ever read.' Divide that praise by a generous factor and you may have the truth. Anyway, he insisted that I turn out a series of these yarns, using the same environment and characters. So I'm busily engaged in concocting my second one, which is proving that fiction is not easy.

"This preoccupation with scientific criminal fiction (nothing to do with science fiction) has taken me off the market as a non-fiction writer. However, books of

mine still seem to come out. A second attempt to explain the Ice Age, this time to teenagers, was issued by Dodd Mead last August, under the title 'When the Ice Came.' It is reported to be doing a good frostbite job among the schools. One other project that might be of interest is that India and I are working out a procedure for celebrating my father's 100th anniversary as a top-level marine artist. He was born in July, 1864. What I am doing is to write various articles about him and his work and arranging to have showings of his pictures here and there. Charles H. Woodbury was a graduate of M.I.T. in 1886 and, of course, if the boys there cared to, they could aid the cause somehow. Two years ago, we gave one of my father's largest pictures, called 'The Green Wave,' to M.I.T. and I understand it is slated for the women's dormitory, where it should keep them awake a lot—it's a lively storm scene. I don't think there is any other news of consequence except that I built a small cement mixer last summer out of a garbage can and some odds and ends. It worked so well that we have built several walls, put rock veneer on the new house and entertained innumerable goggle-eyed friends, all of whom press me to have it patented. I am too wise for that and anybody who wants can come and steal the design without fear of reprisal." Dave continues with some kind attentions to our personal well-being for which we are most thankful and appreciative. We hope everyone in the Class of 1921 will go right out and buy a copy of "Five Days to Oblivion" to increase the frequency of these wonderful letters from the Oracle of Ogunquit.

Rear Admiral **Frederick E. Haeberle** has left Glen Cove, N.Y., for a new home at 1514 Maria Place, Coronado 18, Calif. . . . **Fred M. Rowell** says his mail should be addressed to P.O. Box 173, Osterville, Mass. . . . **John J. Stanton**, one of the famous group of Portland, Ore., architects from the Class of '21, gives a new home address at 2679 Tigertail Avenue, Coconut Grove, Fla. We hereby request an explanation from John as well as one of those long-awaited status reports on our West Coast architects from **Walt Church**. . . . **C. Levon Eksergian** makes his home at Rock House, 431 Rose Tree Road, Media, Pa. . . . **Robert M. Felsenthal** has left Larchmont, N.Y., and now resides at 7 Woodcock Lane, Westport, Conn. 06882. . . . **Eugene H. Kennedy** writes that he is living in Williamsburg, Va., at 115 Laurel Lane, Queens Lake. . . . **Harry A. Goodman's** home address is 81 Stanton Road, Brookline 46, Mass. . . . **William M. Stratford**, formerly of New York City, can now be reached via P.O. Box 546, Rancho Santa Fe, Calif. . . . **Howard B. Tuthill**, President of the Oliver Machinery Company of Grand Rapids, Mich., lives at 1734 Pontiac Road South, Grand Rapids 6, Mich. . . . **Samuel F. Chalfin** has moved from Santurce, P. R., to Paget, Bermuda, where he lives at Shirlohn Cottage, Harbour Road.

It is with deep regret that we announce the passing of two of our members and extend to their dear ones heartfelt sympathy on behalf of everyone in the Class of 1921. **Herbert Conrad DeStaebler** died

on November 2, 1963, at Lancaster, Pa., just two weeks after his retirement. Born on September 19, 1899, at St. Louis, Mo., he attended the University of Missouri and joined us in the sophomore year. During World War I, he was a private in the S.A.T.C. at Technology. As an undergraduate at the Institute, he was a member of the Civil Engineering Society, the Aero Club, Corporation XV and the Tech Show chorus. He was also a member of Phi Kappa Psi. He was graduated with us in Course XV. He joined the Lambert Chemical Company in St. Louis and became vice-president in 1950. When the company merged to become Lambert-Hudnut Manufacturing Company, he was appointed director of purchasing and traffic, with headquarters in Lititz, Pa. He is survived by his mother, Mrs. V. E. DeStaebler; two sons, Dr. Herbert C. DeStaebler, Jr., '50, of Palo Alto, Calif., and Stephen D. DeStaebler of Berkeley, Calif.; a daughter, Mrs. Thomas T. Taylor, 3d, of Tripoli, Libya; and a brother, Eugene DeStaebler of New York City. We are indebted to **John W. Barriger** for aid in preparing these notes.

William Francis Kennedy died on November 5, 1963, at Phoenix, Ariz., where he had made his home at 1330 East Avalon Drive. Born on February 24, 1895, at Fall River, Mass., he prepared at Worcester Academy and attended Worcester Polytechnic Institute before joining us in the junior year. At Technology, he was a member of Alpha Tau Omega and the Mechanical Engineering Society. After graduation with us in Course II, he was associated with the Sullivan Machinery Company in production and with the Hydraulic Press Manufacturing Company. Since 1929, he had been contracting engineer for fabricated structural steel for Bethlehem Steel Company in New York City. His memberships included the American Society of Civil Engineers, the New York State Society of Professional Engineers and the Scarsdale (N. Y.) Golf Club. He is survived by his wife, the former Elizabeth C. Acuff of Ambler, Pa., and by a daughter, Mrs. Francis P. Kennedy, 3d.

In sending us a clipping on Herb DeStaebler's passing, Jack Barriger wrote: "I read in the Class News about your narrow brush with death and the reference to a letter from Herb DeStaebler." Our difficulties, Jack, played havoc with the usual schedule for preparation of Class News, and we had expected to print a portion of Herb's note in this month's issue as a follow-up to his letter quoted last month. We had answered that letter, asking Herb what he planned to do after his anticipated retirement and telling him we had often intended to drop in on him in Lancaster on our way along the Pennsylvania Turnpike to visit our daughter in Michigan. We had just received Herb's reply and had it in our coat pocket the day of our accident. Herb had written, in part: "My long range plans are to remain in Lancaster. My immediate project is to get my health back. I have notified The Review and the Alumni Association of my permanent address. Won't you all please stop by either going to or returning from Michigan? I can bed you down ade-

quately but not fancily. Give me at least one full day to show you this beautiful Pennsylvania Dutch country. Steve is showing again this year at the Museum of Contemporary Crafts in New York. He has a cast aluminum piece for exhibit." . . . How long since you have helped to keep this column going by writing to your secretaries? There's an extra day added to this month. Use it to send us that letter you've long promised yourself to write. A million thanks to you, in advance!—**Carole A. Clarke**, Secretary, c/o ITT Data and Information Systems Division, Route 17 and Garden State Parkway, Paramus, N. J.; **Edwin T. Steffian**, Assistant Secretary, c/o Edwin T. Steffian and Associates, 376 Boylston Street, Boston 16, Mass.

'22

Your secretary reports with regret that snow has finally arrived in Buffalo and a white Christmas is assured. He also reports that the weather was perfect, the company stimulating and the greens especially fast at Augusta. . . . **Robert H. Brown** represented M.I.T. in colorful academic regalia at the State College at Fitchburg inauguration ceremonies in November. . . . **Edward A. Merrill** has completed the Tennessee Gas Building in Houston on which he was working when we saw him at the 40th Reunion and has returned to Skidmore, Owings and Merrill's San Francisco office at No. 1 Bush Street. Sounds like good duty. . . . **Frank T. Westcott** of North Attleboro is called New England's top ranking bridge player. He has been named captain of the United States Team for the World Bridge Olympiad to be held in New York next May. Frank is former president of the American Contract Bridge League and has achieved the title of Life Master, bridge-dom's highest, having won every major New England tournament at least once in his career. He has the most master points of any player in New England and ranks among the highest in the country. . . . **Crawford H. Greenewalt** was named recipient of the Society of Chemical Industry's Society's Medal. It was presented during the 82nd meeting of the society at a special award ceremony in September. The Society of Chemical Industry is essentially a British organization, founded in 1881 to advance applied chemistry in all its branches. The American section was host at this year's annual meeting for the first time in 35 years. His numerous awards include honors by the American Association for the Advancement of Science, the American Institute of Chemical Engineers, and the American Society of Metals. He holds honorary degrees from a number of universities and colleges. He is the author of "The Uncommon Man" and of "Hummingbirds," an authoritative study published under the auspices of the American Museum of Natural History.

H. W. McCurdy has terminated 42 years of continuous association by retiring as board chairman of the Puget Sound Bridge and Dry Dock Company. Starting as a time keeper, Mac moved

along and finally served as the company's chief executive for 30 years. Under his management the company built more than a hundred steel ships and repaired or converted several thousand vessels. It also completed many major construction projects including the Alaskan section of the Early Warning Radar (DEW) Line, the First Lake Washington Floating Bridge and all of World War II coastal Naval Air Bases in Alaska. Mac will continue in many other business activities, as director of the Pacific National Bank of Seattle and of the Lockheed Aircraft Corporation of Burbank, Calif. He plans to devote increased time to his fraternal and civic activities, the Museum of History and Industry, yachting, golf, and travel. He and his lovely bride, with whom we spent enjoyable times at the 40th, will continue to live at "Lochland," Mercer Island.

The new directory for the Alumni Association continues to indicate good representation of our class in the many activities of the Institute. . . . Among the new addresses received are: **Howard F. Baldwin**, Baltimore, Md.; **Dr. Walter W. Boyd**, Bethesda, Md.; **Charles H. Burnham**, Exeter, N.H.; **Charles A. Chase**, Castine, Maine; **Chester W. Greening**, Westport, Conn.; **James D. Sarros**, Madison, N.J.; **Professor Eastman Smith**, Columbia, Mo.; **Benjamin W. Thoron**, Washington, D.C. . . . Belated Merry Christmas, Healthful New Year and a Happy Lincoln's Birthday to you all.—**Whitworth Ferguson**, Secretary, 333 Ellicott Street, Buffalo, N.Y.; **Oscar Horovitz**, Assistant Secretary, 33 Island Street, Boston, Mass.

'23

John W. Beretta was elected president-elect of the National Council of State Boards of Engineering Examiners at its 52nd meeting in Honolulu, Hawaii, August 26-30. John will assume the duties of his office in August, 1964. John helped to fill in the gaps and prevent your secretary from encountering the situation the New Hampshire beavers found themselves in for lack of water (news), as reported in January, by sending us a nice personal letter: "Last August, some months after attending the most enjoyable reunion of the Class of '23 on Cape Cod, I traveled to Honolulu, where I was awarded a very much appreciated honor. In July I gathered my family together, and we proceeded to the West Coast by way of Colorado, accompanied by my son, Alvord B. Rutherford; at Colorado we picked up my older daughter, Mary Austin Rutherford, and later proceeded to Ute Park, N.M., where we picked up my younger daughter, Jacqueline Beretta, who was attending camp. We then proceeded to the West Coast . . . a visit to Disneyland, followed by a trip up to San Francisco. There we boarded the 'Matsonia' and had a lovely voyage to Honolulu. After enjoying a visit to the outer islands, we returned to Honolulu to conclude our sightseeing and participate in the meeting of the National Council. We

returned to San Francisco by Pan American Airways, and returned home in time to get the children back to their various schools. It was truly an enjoyable trip and was possibly the last trip that we can all participate in. . . . One sad event took place when I received news of the death of our esteemed classmate, **William Lyman Stewart, Jr.** On my return I was able to get to Los Angeles for the funeral. It was a sad occasion, but I was very glad that I had the opportunity of paying my last respects to my good friend and classmate."

The Registration Bulletin of the National Council gave a detailed summary of John Beretta's career, excerpts from which are quoted: "John Ward Beretta, engineer, civic leader, financier and soldier, has led a busy life since his birth in Laredo, Texas." After attending the University of Texas, he interrupted his education by enlisting for service in World War I; after the war he transferred to M.I.T. and graduated in architectural engineering. He worked with the American Bridge Company for five years, then returned to Texas where he was employed by three bridge companies and was president of the First National Bank of San Antonio and Laredo. In addition to his World War I service, he was called to active duty in July, 1941, in the Corps of Engineers. He served at the Gulf Coast Air Corps Training Center, the Newfoundland Base Command, the Engineer Board, and the U.S. Strategic Bombing Survey in England. He was returned to inactive status in March, 1946, with the rank of colonel. He held and turned over to the Corps of Engineers two bridge patents, received the Bronze Star for Meritorious Service, and five other campaign ribbons. He has served his community, state and profession actively in the San Antonio Chamber of Commerce, San Antonio Development Committee, San Antonio River Commission, Texas Society of Professional Engineers, National Society of Professional Engineers, San Antonio Clearing House Association, San Antonio Livestock Exposition. At the present time he is a registered engineer, architect and public surveyor of Texas, a member of A.S.C.E. A.S.M.E., and other professional societies. He is a member of the Texas State Board of Registration for Professional Engineers and has been very active in that organization. He is president of Beretta, Greenslade and Associates, and Travis-St. Mary's Company, chairman of the board of the Kleberg First National Bank of Kingsville, and a director of the First National Bank of San Antonio.

The 'Midwest Engineer' reports on **Phillip L. Coleman**, past president of the Western Society of Engineers: "Mr. Coleman was graduated from M.I.T. with the degree of B.S. in business and engineering administration. He successively has been associated with the Public Service of New Jersey, Illinois Power, Dayton Power and Light Institutional Utility Service of New York, and since 1943 in Chicago with Duff and Phelps, Inc., of which he is now a vice-president. He has been active in the Western Society of Engineers work since joining the organ-

ization in 1950. He is also a member of A.S.M.E. and is active in Alumni affairs and represents the Institute as honorary secretary in Chicago.

The Alumni Office reported the following address changes: **Howard G. Doster**, Box 266, 645 Crestwood Avenue, Wadsworth, Ohio; **J. Raymond Eiffe**, 60 Bauer Terrace, Hillside, N.J.; **Nelson M. Fuller**, 28 Montclair Avenue, Batavia, N.Y.; **John H. Hinds**, Route #4, Box 247A, Fredericksburg, Va.; **David M. Houston**, 445 Pinehill Road, Hillsborough, Calif.; **David B. Joy**, 618 Mountain Road, Smoke Rise, Kinnelon, N.J.; **John S. Keenan**, 21 Dale Avenue, Toronto 5, Ont., Canada; **George F. Nesbitt, Jr.**, P.O. Box 205, Sandy Spring, Md.; **Ivan L. Tyler**, Tucson House, Apartment 602, 1501 Miracle Mile, Tucson, Ariz.; **Charles D. Wheelock**, P.O. Box 4366, Carmel, Calif.; **Gerald L. White**, 3072 The Boulevard, Montreal 6, P.Q., Canada; **Bernard L. Zangwill**, 4890 Battery Lane, Bethesda, Md.—**Forrest F. Lange**, Secretary, 1196 Woodbury Avenue, Portsmouth, N.H.; **Bertrand A. McKittrick**, Assistant Secretary, 78 Fletcher Street, Lowell, Mass.

'24

The Christmas season brought a goodly number of greetings, and many of you heeded your secretary's plea to add a newsworthy note. From **P. Fay (Duke) Marrs** we learn that he retired from Union Bag and Paper Corporation two years ago. He had a heart attack and took the warning. However, he is getting in a lot of golf at Siesta Key in late winter, and the Cape and Maine in the summer. Sounds like a happy situation. . . . The **Henningers**, of course, were in Florida long before Christmas, and were contemplating the trip north for the holidays with mixed emotions. They'd probably like to wait right there until time to head for the Oyster Harbors Club in June. "See you then," says Johnny. . . . The **Wongs** greeting came from Australia, as they were heading back to Jesselton. That used to be in North Borneo, but when the new nation of Malaysia came into being last September its name was changed to Sabah, a Malaysian state. One of Jimmy's missions, by the way, was to arouse interest in the right quarters for establishing a Y.M.C.A. and a Christian College in Sabah. He seems to have made headway.

"Price is not an absolute guarantee of a photocopy machine's quality." So says a recent report to subscribers from the Buyer's Laboratory, Inc. This was a new outfit to us, but it's been in business for two years supplying information on office equipment to purchasing agents, primarily. And whether or not this is a field of concern to you, you will be interested in knowing that it is the brain child of **Arthur Kallet**, founder and director of Consumers Union. He left that organization in 1960 to start the Medical Letter on Drugs and Therapeutics, then a year later went into the office equipment business, or at least the evaluation thereof. . . . In case you'd like to write to **Mike Ameza**, he

can be addressed as follows: **Miguel F. Ameza**, Apartment 1416, 3550 Lake Shore Drive, Chicago 13, Ill. . . . **Austin Cooley** has left New York. He's with Litton Systems, Inc., at College Park, Md. . . . And **Joe Tryon** has retired, after all these years with Gulf Oil in Pennsylvania. When you're in Florida look him up at Pompano Beach. He's at 2373 NE 30th Court. (We had always thought of a court as a small, dead-end street.)

Electrical engineers especially will remember **Jacob Arzoomanian**. For many years Jake (whose name is now **Jacob A. Manian**) has been with the Patent Office after getting his L.I.B. from George Washington University. He is now director of the General Engineering and Industrial Arts Examining Operation. It is one of four major groupings, and Jake has a large number of patent examiners under his supervision. This all came to light through a very official letter stating that he had received a promotion for "demonstrated ability and outstanding competence in the performance of official duties in the Patent Office." The letter was addressed to the Dean of Engineering, and these government departments never miss a chance for a plug. It ended; "His performance speaks well for the curriculum and teaching staff of your university. We hope that each year members of your graduating classes will be interested in coming to the Patent Office." . . . There was a big affair for **Avery A. Ashdown** in November when some 300 members of the Northeastern Section, American Chemical Society, turned out to give him a testimonial dinner. The occasion was the Society's award of the \$1,000 James Flack Norris Award "for outstanding achievement in the teaching of chemistry." And who should deliver the testimonial address, appropriately titled, "Avery Allen Ashdown, the Recipient," but another classmate, **Cyril J. Staud**. Ave retired officially in 1957, but you'd never know it. He's in his office every day, as usual. And by the way, some of you undoubtedly took chemistry under Professor Norris, as did Ave.

Hobart Manufacturing Company has made a few changes at the top, and it looks like an all-M.I.T. outfit. **Dave Meeker** is now chairman of the board and chief executive officer. Vice-chairman of the board is Edward S. Johnston, '25, and the new president is Guy S. Frisbie, '26. Sounds like another triple-play combination, Meeker to Johnson to Frisbie. We will have more on Dave at a later date. . . . And now we have the unfortunate duty of reporting five deaths. **Edward Carlson** died last May. For a good many years Ed had been an electrical engineer with Stone & Webster in Boston, making his home in Lexington. **Johan C. Falkenberg**, one of our two Norwegian classmates, died in midsummer. After M.I.T. he worked in this country for a few years, then went home to Oslo where he established his own engineering firm. Belatedly we learned that **Wesley R. Gilbert**, who was with us for one year, died in 1960. . . . **William L. Lamm**, a civil engineer, was born in Mexico and returned there after graduation. He had been manager of Carrier-Brunswick, S.A., manager

of a goat raising ranch, and had his own agricultural farm. He died in November. . . . A regular attendant at class luncheons in New York, **S. Howell Brown, Jr.**, had been a patent attorney with Pennie, Edmonds, Morton and Barrows since graduation from George Washington University. He died on November 16. To the families of all these friends and classmates go our deep sympathies. . . . In a vastly different vein, may we remind you again that our 40-Year Reunion is only four months away; and that, a year hence, you'll be glad you made a nice addition to our 40-Year Gift now.—**Henry B. Kane**, Secretary, Room 1-272, M.I.T., Cambridge 39, Mass.

'25

You should be receiving information regarding the 40th Reunion shortly after you read this column, according to **Dave Goldman**, Chairman of the 40th Reunion Committee. It is not too early for you to be making your plans to attend the 40th, which will be held starting on Friday evening, June 11, 1965, and extending through Alumni Day at Cambridge on Monday, June 14. We have confirmed reservations at the Trade Winds in Craigville just outside of Hyannis, Mass., on Cape Cod. This is a very handy location, being not more than 15 minutes from the Hyannis Airport and easily reached by automobile, with throughways from New York and Boston quite handy. Fine beaches on the south shore of Cape Cod are available. There are many good golf courses in the neighborhood, and all kinds of interesting things to be seen and visited. According to Dave, the communication which you will be receiving shortly will give you more details; he suggests that you indicate your intentions of being with us for the reunion and that you note any ideas which you think would be useful in planning the reunion activities.

There are several news items which should be of interest to you. Appearing in the recent 'Transactions of the I.E.E.E.' under aerospace and navigational electronics, is a paper by **H. E. Thomas** of the Federal Electric Corporation. A Senior Member of I.E.E.E. and a registered professional engineer in New Jersey, he holds a total of 12 patents, has published five books and has submitted many technical papers. He received his M.S. in electrical engineering with our class; and over the years he has been associated with a number of concerns in research, development, production and test, engineering and design; and in his present position, is concerned with special reliability covering DEW Line operations. . . . In a recent issue of 'New England Construction' an article describes some of the large building programs which have been carried out by the firm of Oneglia & Gervasini, Inc. of Torrington, Conn. Of special interest to the class is the fact that **George Mahoney** is vice-president in charge of the O. & G. Building Division, having joined the firm in 1960 with a background of 35 years of experience in construction.

A recent news release of Washington University of St. Louis notes that **James S. McDonnell**, Chairman of the Board of McDonnell Aircraft Corporation of St. Louis, has been elected chairman of the Washington University board of directors. Mr. McDonnell received his bachelor's degree from Princeton University and his master's in aeronautical engineering with our class. He has been honored on several occasions by universities, the Missouri School of Mines having awarded him an honorary degree of doctor of engineering, as is true of Washington University; and in June of 1960, Princeton University awarded him an honorary doctor of laws. Much has been written about the tremendous job done by the McDonnell Aircraft Corporation which was started in 1939 with a handful of men working on bomber designs. Mr. McDonnell, known as aviation's 'Mr. Mac' has brought his company to the point where it ranks Number 2 among contractors for the National Aeronautics and Space Administration, and 17th in Defense Department contracts, and employs some 27,000 aerospace workers.—**F. L. Foster**, Secretary, Room 5-105, M.I.T., Cambridge, Mass.

'26

Last month we reported **Guy Frisbie's** new responsibility as obtained from **Dave Shepard**. We then wrote Guy for the details. He turned the request over to his public relations man, Don Mason, but also wrote us the following letter: "Dear George: Isn't that just like Dave Shepard? Here he is on a quick trip to the United States and yet finds time to write to you as well as to me. When the Class of '26 elected him as president they surely picked the right fellow. Don Mason didn't show me his letter to you until after it had gone, so I had no opportunity to argue with him concerning some of his statements regarding my 'past.' Anyway, you asked for 'a news release' and got two. I greatly appreciate your congratulations and good wishes. Cordially, Guy." The letter from Don Mason advised that in addition to Guy's promotion to president, their new board chairman is an M.I.T. man, Class of '24, so I forwarded this information to Chick Kane for the '24 Class News. With two M.I.T. men leading the company, how could any self-respecting alumnus buy any dishwasher other than a Kitchen Aid? A copy of their company magazine, 'The Hobartizer,' sums up Guy's career: "Guy S. Frisbie brings to his new office over 37 years of experience with Hobart. With an early background in sales and sales administration, he served as corporate secretary beginning in 1945, as vice-president and secretary in 1952, vice-president, secretary and treasurer in 1954, becoming vice-president and general manager in 1956. Mr. Frisbie was elected to the board of directors in 1953 and was named executive vice-president in 1959. His civic activities have included many years as a member of the Troy Board of Education and of the board of

trustees of Stouder Memorial Hospital, on which board he still serves."

You will recall that **Austin Kelly** was appointed Class Gift Chairman for our 40th Reunion. Austin is not quite ready to announce his plans but the local seismographs have been recording some weird earth tremors recently and these have been traced to Austin's ground-breaking activities. When that red-headed Irishman is given a job, watch out! All I can predict right now is that the Class of '26 is going to write some new history. 'Pink' Salmon and I are in close touch with Austin and will let you know as soon as Austin is willing to raise the curtain on his activities. 'Pink' and I had lunch this week, and he asked that I express to all of you, through the Class News, his appreciation for your response to the Alumni Fund. . . . A clipping tells of the death of **George Apel** in Nashua, N.H., early in the fall. I used to see George frequently when he was chief engineer for Boston Woven Hose and Rubber Company, but he left there in 1957 to become chief engineer for Nashua Corporation, and I had not seen him since. Sympathy of his classmates is extended to Mrs. Apel and his daughter Marjorie.

Has anyone guessed that these notes are not being written at Pigeon Cove? Our St. Bernard, Heidi, was ill last weekend, so instead of writing Class News I had to drive across the Essex Marshes through the worst fog I have ever encountered to the best veterinarian in the world who is located in Ipswich. As a result, Heidi is at my feet, spread out over most of a 12 x 16 foot braided rug, happily dreaming with her feet apparently running through the fields. She has just awakened and indicated that she wishes to take a walk and off to bed. When Heidi requests, I act so it looks as though the notes have come to an end until next month.—**George W. Smith**, Secretary, E. I. duPont Company, 140 Federal Street, Boston, Mass.

'27

Albert C. Smith, who was known and liked by so many of us, died November 18. As of this writing I have no further details. For at least the last 15 years, he lived at the same address, 540 Tioga Avenue, in Scranton, Pa. Born in Winthrop, he attended Winthrop and Boston English High Schools. At Tech he was in general engineering and after his S.B., he continued his thesis on mechanically refrigerating truck bodies. Later he attended the United States Brewers Academy. In 1951 Al was general superintendent of Lion Brewers in Wilkes-Barre and vice-president of the Master Brewers Association. Later he was president of this organization. His research in the brewing field brought awards and recognition in his industry, and he became master brewer for Lion's Gibbons Brewery. Al served the Institute on the Educational Council. His wife and two daughters survive him. We will miss Al's ready wit and friendly company at the reunions.

. . . **Ivor Yassin's** death was reported here last month. The Boston Globe adds to our information the fact that he was commissioned by the National Aeronautics Council in 1943 to write "A Handbook of Airplane Maintenance" which became an authority in its field.

Francis B. Thorne has completed a 36-year career with Kodak. He was assistant superintendent of the chemical manufacturing division at the Kodak Park works at the time of his retirement. Thorne and his wife are moving to Santa Clara, Calif. . . . **Paul Vaughan**, chief engineer for ALCO Products in Schenectady, recently addressed the A.S.-M.E. meeting in Philadelphia. His subject was "Factors Influencing Enginebearing Performance in High-output Diesel Engines." . . . Re. avocations: **John Parker**, basically a Springfield, Mass., architect, has been collecting legends on ghost-houses for nearly a half-century. He told the M.I.T. Club of the Connecticut Valley of his experiences at their last meeting. . . . The newly elected treasurer of Simplex Wire and Cable Company is **Ralph Stober**, who walked right over to Simplex on graduation day and has been there ever since. Ralph has been a regular at the reunions. Good luck in the new job! . . . During 1959, Dr. **David G. C. Luck** was on leave from R.C.A. and participated in the work of the Advanced Research Projects Agency of the Department of Defense. We learn that he has returned to RCA in defense electronics work. . . . In December I listed a Hong Kong address for **Walter Kwauk** but a letter I wrote to him there has been returned unclaimed. New addresses: **Lyn-dall R. Perry**, 21 Deerfield Road, PO Box 555, Mandham, N.J.; **F. Hall Hately**, P.O. Box 326, Hato Rey, Puerto Rico.—**Joseph S. Harris**, Secretary, Mason's Island, Mystic, Conn.

'28

Our award this month for "Pride of the Class" goes to **Albert J. Gracia**. For details we quote the Akron Beacon Journal of October 5: "The Distinguished Award of Council of the Akron Council of Engineering and Scientific Societies (ACCESS) was presented Friday night to Albert J. Gracia, director of research and general products development of Goodyear. Gracia was honored at a dinner sponsored by ACCESS and the University of Akron. The dinner, attended by 800 in Memorial Hall, climaxed the celebration of Akron U's 50th anniversary observance of its College of Engineering. The award recognizes outstanding professional achievement, managerial accomplishments, activities in professional societies and work of a civic nature outside the profession. It was presented by Dr. P. R. Girardot of Pittsburgh Plate Glass Company, Chemical Division, president of ACCESS. Dr. Girardot landed Gracia as "a man who has combined outstanding technical work with vigorous activity in civic affairs." Gracia's citation acknowledged his participation in community affairs, successful achievements in his profession, and

generous gifts of time and energy to enhance the prestige of the engineering and scientific professions. A member of ACCESS, Gracia also is a member of the American Chemical Society, American Institute of Chemical Engineers and American Nuclear Society, and is a fellow of the American Association for the Advancement of Science. A native of Cambridge, Mass., he came to Akron in 1928 after receiving a degree in chemical engineering. His work in research and engineering during the late 1930s led to development of Goodyear's first synthetic rubber production plant."

Many thanks to **Jim Donovan**, our roving reporter, for the following: "I just had a Christmas card from **Walter Nock**—one of our few mining engineers. Walter has had a several months' bout with the hospital but says it's a thing of the past. His and Lela's son Ronald is at Colby and doing well. As far as I know, Walter is still the head man in Mexico for American Smelting and Refining. . . . This last week I was in Houston, Texas for a meeting of the American Institute of Chemical Engineers and saw our classmate **Bill Hurst**. Bill invited me to meet him at the Petroleum Club—a very fancy do on the top of the Humble Building—the tallest in Houston. We talked of old times and new. Bill is to receive the Anthony F. Lucas gold medal of the American Institute of Mining and Electrical Engineers at a meeting in New York in February. That's a top honor to an extraordinary, competent member of our class. I also talked with **Bill Woods**. I believe Bill is a vice-president of the Texas Gas Company or something like that; in any event, he was friendly and warm on the telephone for all the fact that he's had three heart attacks and plenty of problems.

"I tried telephoning to **Herb Dayton**, Course X, but there was no answer. Some friends told me he had retired. I then went up to New York to the Chemical Show. **Franklin McDermott** stopped by, but I was busy talking with someone else so he wandered on. He looked well and, as always, pleasant and friendly. **Morey Klegerman** went by and mentioned that he and **Ed Ure** had just been somewhere. I forget whether I wrote you and said that I had seen Al Gracia in his office on Executive Row at Goodyear Tire & Rubber. He is the same friendly, dedicated man he's always been. If I remember correctly, he was going over to help Tommy Knowles, '27, supervise the baptism of a new Goodyear Zep by a reigning beauty from Akron. Quite properly this took precedence over luncheon with me!"

From the 'Ohio Engineer' of Columbus, Ohio, we learn that **G. H. Reynolds**, Chairman of the Board of Distinguished Consultants and general manager of Goodyear Atomic Corporation, celebrated his 35th anniversary with the company on July 30. George joined the Goodyear Tire and Rubber Company in Akron immediately following his graduation; and during the years his active career with Goodyear included various assignments which have taken him around the world several times. . . . And as an introduction to an article in the 'American Dyestuff Reporter' by **Walter Ridley**,

we quote the following brief biography that accompanied his picture: "Walter H. Ridley began his career in textiles with the James Hunter Machine Company of North Adams, Mass., where he spent nine years as sales engineer and designer of textile machinery. He then went with Riggs and Lombard, Inc. of Lowell, Mass., serving in a similar capacity until 1942. His familiarity with textile machinery led to a position in the Boston office of the War Production Board during the critical years of 1942-1943. In 1944, he joined the Foxboro Company, manufacturers of industrial instruments, where he is presently in charge of the Textile and Chemical Fiber Division." . . . And, by the way, if that photograph of Walter is recent, he is a candidate for "Youngest Looking Member of the Class of 1928." —**Hermon S. Swartz**, Secretary, Construction Publishing Company, P.O. Box 255, Lexington, Mass.

'30

It isn't often that the secretary of a class 30-plus years out of school gets a chance to report a classmate's first marriage. Our newly minted benedict is **Bob Cook**, who was married to Frances Smith MacGuire last August. After a Hawaiian honeymoon the Cooks returned to Orange, Va., where Bob is national sales manager of Virginia Metal Products, Inc. As an incident of his marriage, Bob acquired two grown sons, Dennis and Chris, who are in the Army and Air Force, respectively, and are both stationed in Germany. It appears that Dennis is a considerable golfer, being a member of the Army-Europe team and a contestant in the recent inter-service tournament. Bob reports that he is still working on his longtime hobby—a projected "World Materials Center" which would be a "clearinghouse for data and physical samples of all known materials with automatic retrieval and remote display in labs, industries and colleges." . . . A newsy communication from **Joe Preble** reveals that he is now working for Mannington Mills, Inc., in Salem, N. J. as manager of a plant producing resilient floor coverings. The Prebles' daughters, Patricia and Carolyn, are both married and have presented them with five grandchildren. For the last seven years Patricia and her husband have lived in South America—Caracas, Buenos Aires and Bogota, thus providing Joe and Fannie with a convenient reason for frequent trips to S. A. Joe is a member of the N. J. Employees' Legislative Committee, Township Planning Board, local Hospital Planning Board and the Valley M.I.T. Club, also a spare-time golfer, gardener and furniture refinisher. He says he has recently seen Hal Spaans, Carl Franz and Harold Plant. We have previously reported Hal's move to Mother Bell's Philadelphia office. Carl is a project director with Allied Chemical at Mendham, N. J., and Harold is with the Electronic Data Processing Division of RCA in Camden. . . . **Bill Paine** is now (since 1958) president of Bendix-Westinghouse Automotive Air Brake Co., in El-

yria, Ohio. His daughter Carolyn graduated from University of Colorado, Phi Beta Kappa, and is married and has two daughters. Son Willard, Jr., attended Northwestern and is now in the Navy. . . . **Ed Pritchard** has been appointed general manager of the Military Systems Division and vice-president of Lockheed Electronics Company. After graduation Ed studied at the Universities of Paris and Göttingen on a Swope Fellowship, and then returned to M.I.T. as a research associate in the Electronics Engineering Department. Subsequently he worked for Arma Corporation, in Brooklyn, Tennessee-Eastman at Oak Ridge, Sigma Instruments/Fisher-Pierce, Inc., in Boston, and RCA in Camden—**Gordon K. Lister**, Secretary, 530 Fifth Avenue, New York 36, N. Y.; Assistant Secretaries: **Charles T. Abbott**, 26 Richard Road, Lexington 73, Mass.; **Louise Hall**, Box 6636, College Station, Durham, N. C.; **Ralph W. Peters**, 16 Whitestone Lane, Rochester 18, N. Y.

'31

Congratulations to three of our classmates who have recently become presidents of their companies. **Dick Baltzer**, who joined Avon Sole Company, Avon, Mass., in 1932, was elected their president in the late summer. . . . **Claude Machen** (vice president of our class) has just been elected to the presidency of Boston Gas Company, effective January 1. . . . **Don Sinclair** became president of General Radio Company of West Concord in October, filling the vacancy created by the death of their former president. By the way, Don received the President's Certificate of Merit in 1948 for his work on counter-measures and guided missiles. . . . A recent note telling of the 1963 Rockefeller Public Service Awards also mentions that our classmate, **Emilio Collado**, Director, Standard Oil Company (N.J.) served on the Awards Selection Committee. . . . All who knew him will mourn the death of our classmate, **Joseph R. Ryan**, who passed away in Kenmore, N.Y., on October 24.—**Edwin S. Worden**, Secretary, 35 Minute Man Hill, Westport, Conn.; **Gordon A. Speedie**, Assistant Secretary, 90 Falmouth Road, Arlington 74, Mass.

'32

A profile in the publication "Printing Magazine/National Lithographer" gives interesting data on the career of **Edmund B. Fritz**, now executive vice-president of the Azoplate Corporation, 558 Central Avenue, Murray Hill, N.J. After graduate work at M.I.T. and several years in engineering fields, including pioneering development work in the punched-card data processing labs at Remington Rand, Ed served in the Navy in the Pacific during World War II and attained the rank of lieutenant commander. After World War II, U.S. Army researchers found work towards the perfecting of a new type of photo-sensitive

plate, which had its diazo coating pre-applied, among the laboratory records of the Kalle Company. The U.S. Army Engineers enlisted the aid of Keuffel and Esser Company in developing this product. Under the guidance of F. W. von Meister, then with K & E, and with the suggestion from Ed Fritz, then with Lithomat Company, Boston, that the fragile photo-sensitive acetate material be bonded to paper, a first practical printing plate, known today as the "presensitized offset plate" was made by K & E. Ed joined K & E and later joined the Azoplate Corporation organized in 1952 by Mr. von Meister. Today Ed is concerned primarily with sales and administration. He is active in the alumni groups of both Columbia and M.I.T., in the Naval Reserve, and the trade and technical associations of the Graphic Arts industry.

Dr. **William Liben**, Course VIII, who was with our class all the way from 1928 to 1932 and then went on to secure his advanced degrees from M.I.T., has been, for the last 10 years, with the Applied Physics Laboratory of Johns Hopkins University in Washington, D.C. William is principally engaged in the development of microelectronics circuitry for the Bureau of Naval Weapons. Applications have included the circuitry in the Navy's Navigation Satellite and in industrial adaptation to other orbiting vehicles and planetary probes. . . . **William C. Schoolfield**, Course XVI, is now navigation manager for Astronautics with Ling-Temco-Vought, Inc., of Dallas, Texas. He joined the company in 1933, has served on several committees of the National Advisory Committee for Aeronautics, the predecessor of NASA, and was on leave of absence for one year working in the Space Technology Division of the Advanced Research Projects Agency. For ARPA he worked on launch vehicle development and later on the Transit program, helping to develop the first navigational satellite. William is now working on launch vehicle performance, spacecraft trajectories, spacecraft stabilization and control, guidance and navigation systems. . . . **Robert W. West**, Course I, is with the Department of the Navy in Washington, D.C. He has long been associated with the Department's computer operations and for the last two years has been performing statistical reporting service with the Department of Agriculture, analyzing expected crop production and other agricultural matters and programming further computations. . . . **John G. Hieber**, Course VI, is "Mr. Rural Electrification" in the Department of Agriculture, Washington, D.C. John points with pride to the fact that during the last 35 years over 99 per cent of all government loans of local co-operatives organized to provide electrical service to farmers have been repaid. . . . **Erwin O. Kruegel**, Course II, is special assistant to the director for engineering, Defense Supply Agency, Washington, D.C. The Defense Supply Agency's mission is to promote standardization, centralized purchasing, and incentive contracts in the military services. Erwin's tasks include advice to industry on mass production of

electronics and motorized equipment for military application.—**Elwood W. Schafer**, Room 10-318, M.I.T., Cambridge 39.

'34

The first two days' returns in response to the 30th Reunion Committee's letter of November 12 indicate that many classmates are planning to come to Cape Cod next June. Not including committee members, whose names were on that letter, the following have counted themselves in, as of December 3, all with wives: Bill Main, Albert Grass, Charles Ellis, Tom LaCava, Leonard Shapiro, Arthur Miller, Glen Woodbury, Francis Jenkins, Charles Sheehan, George Bull, Charles Lucke, Francis Buresh, Irvin Gahm, George Fowles, Charles Parker, and Maurice Marshall. Others who have said they hope to come are Paul Grueter, Robert Frazier, Sam Joel, John Hitchcock, Steve Muther, Neal Karr, Eugene Clarke, Henry Morss, Russell Venn, Ralph Brown, John Burwell and Proctor Wetherill. It is clear that there is going to be a fine turnout next June. Around mid-February, everyone in the class will receive a letter from the reunion committee, spelling out reunion plans and calling for reservations. If anyone interested in coming has not received this letter by Washington's birthday, he should drop a line to **Norman Krim**, Room 33-213, M.I.T.—**Malcolm S. Stevens**, Secretary, 9 Glenfield Road, Barrington, R.I.; **J. P. Eder**, Secretary, 1 Lockwood Road, Riverside, Conn.; **G. K. Crosby**, Secretary, 44 Deepwood Road, Darien, Conn.; **Harold E. Thayer**, Secretary, 415 West Jackson Road, Webster Groves 19, Mo.

'35

It was nice to get a letter from **Walter Stockmayer** which I am passing along to you: "Sylvia and the boys (both now away) are in fine health. Our pursuits are the same old ones: music, mountains, tennis (in my case, very low grade). Sylvia is very active in the local chapter of the AAUN. I have become chairman of the Chemical Department here and so far have enjoyed it more than I had anticipated I might. Teaching and research are still the major ingredients. I am very proud of the fact that one of my former graduate students at M.I.T., Marshall Fixman, Ph.D., '53, recently was named winner of the 1964 American Chemical Society Award in Pure Chemistry, given annually to a chemist under 36 years old for his research and his promise of future contributions. Marshall is a professor at the University of Oregon. Last August, we held a NSF-sponsored two-week seminar here on the "Statistical Theory of Micromolecules." Lecturers were the aforementioned Fixman and myself. Attending were around 40 men from industry, government, and universities. All blackboard chemistry. . . . **Ben Blocker** dropped by the other day with his wife and his son David, the latter to look over Dartmouth and be interviewed. Many of

our class will be happy to learn (if they haven't already read it elsewhere in The Review) that Professor Emeritus Avery Ashdown, '24, (also Emeritus Master of the Graduate House) received the James Flack Norris Award from the Northeastern Section of the American Chemical Society for his outstanding contributions to teaching chemistry at M.I.T. I was glad to read the preliminary story on the 30th Reunion. If I'm not abroad, I will certainly be there with my wife."

With further reference to our 30th, **Bob Forster** has graciously accepted **Leo Beckwith's** appointment of him as reunion chairman. We will be using these columns to keep you informed of progress. Bob's initial message follows: "Approximately 18 months ago a group consisting of President Leo Beckwith, Ex-President Jack Colby, Jerry Golden, Irving Banquer and Bob Forster, met to discuss possibilities for a 30th Reunion. It was proposed that a Caribbean Cruise be investigated. **Jack Dolby** contacted a travel bureau and obtained information as to dates and costs. The cost per couple for the boat trip alone was set at \$850 and the vessel would leave from Miami in February or March for a West Indies trip of 10 days, returning to Miami. From a selected sampling of 90 we received 31 replies about such a reunion as follows: 10 unqualified yes, 5 qualified yes, and 16 no. In view of this return it was felt that this idea would have to be dropped. The group met again last spring and decided to investigate locations on the North Shore and on the Cape. We checked out a number of possibilities by telephone and letter and finally, personally visited the six most likely resorts. We decided in July that our 30th Reunion will be held at Chatham Bars Inn, Chatham on Cape Cod. The dates will be Thursday or Friday, June 10 or 11 through Sunday June 13, 1965. This will be our second visit to Chatham Bars Inn. Those of you who attended our 20th will remember the setting, I'm sure. It is an ideal location offering tennis, golf, fishing, sailing, plus swimming for those hardy souls who can brave the Atlantic that early in the season. We would like to receive an indication of your interest in attending. We are not now asking for a firm commitment. Costs should be about \$21 per day per person, American plan, not including activities. In a month or so, you will receive a brochure and tentative schedule. Plan now to be with us. Stop and consider that we are slowly but surely running out of reunions. This will be our sixth. If you haven't made one yet, come to the next five, starting with this one."

News from hither and yon: Leo Beckwith ran into **Ed Taubman** at Baltimore while he was taking his daughter down to Goucher College. . . . **Wilton G. Hawes**, now of Grand Rapids and an Educational Counselor, represented M.I.T. at the Institute of Hope College on November 16. . . . With a shot at the Mythical Plaque in mind **Hal Oshry** announced the birth of Joseph Paul Oshry on September 25, 1962. Melissa Robertson Mowatt born October 5, 1962 is more recent by 10 days. Any more challengers? . . . **Bill Buechner** (Dr. William W.) can be

reached at M.I.T. Physics Department, Room 6-113. . . . **Jack Holley** has moved again, this time to 2205 Chicago Street, San Diego, Calif. Note that **George Agnew** is one of our classmates in the same city; give him a call. . . . **Michael G. Kelakos**, Course X, has an interesting address; and if he reads these notes I hope he will write us about it: American Embassy, A.P.O. 794, New York, N.Y. . . . I am pleased to announce that as of December 10 your secretary has landed the job he was looking for, with a real opportunity ahead. I am manager of product development with the Sweet Industrial Division of Electronic Metals & Alloys, Inc., Attleboro, Mass. This is a three-year-old company that has built its volume to over \$1 million in precision stampings and solid phase clad metals. My goal in this newly created position is to develop lines of products to be marketed to military and O.E.M. accounts. . . . So now let's have some more letters. These notes can be just as interesting as you make them.—**Allan Q. Mowatt**, Secretary, 11 Castle Road, Lexington, Mass.; Regional Secretaries: **Edward C. Edgar**, Kerry Lane, Chappaqua, N. Y.; **Hal L. Bemis**, 510 Avonwood Road, Haverford, Pa.; **Edward J. Collins**, 904 Merchandise Mart, Chicago 54, Ill.; and **Gerald C. Rich**, 105 Pasatiempo Drive, Santa Cruz, Calif.

'36

The Alumni Office has reported the death of Dr. **Raymond F. McAteer**. In 1961 he was assistant director of the Rhode Island Department of Health. No further information is currently available. . . . **Harrison D. Myrick**, who started with us and graduated from Boston University, has been appointed supervisor of management controls for the Stromberg Division of the General Time Corporation. Prior to joining Stromberg, Harrison was with Sealol, Inc., in Providence as manager of cost and estimating. . . . Our class keeps on the move; here is the current list of changes: **Dana Devereux** from Port Arthur, Texas to Wee Burn Drive, New Canaan, Conn.; **Robert F. Johnson** to 6 Higgins Road, Marblehead, from Freeport, N.Y.; **Leonard Stoloff** from Rockport, Maine, to Islington, Mass. (104 Pine Lane); and **Ralph Van Sant, Jr.** to Rotterdam, Holland from Pittsburgh. His new address is Gulf Oil Nederland N V, P.O. Box 1137, Blaak 32. **Arnold Kruse** has moved to 694 Kaale Road, Paukukalo, still on the island of Maui, Hawaii. It sounds attractive on a cold wintry day, doesn't it? Dr. **Gordon Vaala's** new address is 1609 Shipley Road, Wilmington, Del.—**Alice H. Kimball**, Secretary, 20 Everett Avenue, Winchester, Mass.

'37

The appointment of **Edwin L. Hobson** of St. Louis, formerly of Monson, as vice-president and director of marketing

for Gering Plastics Company, Kenilworth, N.J., was announced recently. Gering is a department of Monsanto Chemical Company. Hobson will have responsibility for all marketing activities, including domestic and export sales, product management, market development and advertising. From 1937 to 1941, as a sales engineer prior to joining Monsanto, he pioneered the introduction of polystyrene molding materials. During World War II, from 1941 to 1946, he served in the Office of the Quartermaster General in the U.S. Army as chief of the plastics section, research and development branch. Hobson was awarded the Legion of Merit by the Secretary of War for the vital role he played in the development of plastic applications for military use and was discharged with the rank of lieutenant colonel. He joined the marketing department of Monsanto's Plastics Division in Springfield, Mass., in 1946. Hobson has served successively as assistant district sales manager in New York City, sales manager of thermoplastics, assistant general manager of sales and, from 1954 to July, 1963, as director of sales-plastic products, contributing to the expansion of Monsanto's position in polystyrene, vinyl and polyethylene molding and extrusion materials. He is a member of the Society of Plastics Industry, Society of Plastics Engineers, American Chemical Society and the Chemists' Club of New York. . . . Professor **Leo B. Moore** of M.I.T. recently established the Moore Award and Medal for extraordinary contributions to standardization. The first recipient was Secretary of Defense Robert S. MacNamara.

A note from **Bob Rudy** in September said: "Just came back from Cambridge after leaving son John at Baker House where he starts his first term. It was quite a thrill, and I wish I could do it again. Best regards." . . . The Connecticut Valley Chapter of the Massachusetts Society of Professional Engineers met in Holyoke, Mass., on October 8. The speaker was **William H. Austin**, Connecticut national director of the society, whose subject was "What Can the National Society Do for the Professional Engineer?" All registered professional engineers were invited to attend, as Mr. Austin gave an informative presentation on the society's function at the national level. Bill began his engineering career in the air conditioning and heating field. In 1955, he formed the firm of William H. Austin and Associates, consultants specializing in industrial buildings and plants. He is a past president of New Haven Chapter of the Connecticut Society of Professional Engineers. Future Engineers of America, an organization to promote engineering among high school students, was started by Bill in Connecticut. . . . **Jacob 'Red' Cohen** of North Andover, Mass., former metallurgist, races his greyhound kennel at Wonderland Park, Revere, Mass., every summer. . . . Dr. **Albert C. Hall**, deputy director of research and engineering for space technology, Department of Defense, was keynote speaker at the 10th East Coast Conference on Aerospace and Navigational Electronics. The conference was held in

Baltimore, Md., in October; major subjects under discussion were radiation effects, space vehicle attitude control problems, space missions and environment, tracking and telemetry, guidance and control, piloted flight simulation and various aspects of air and spaceborne electronics. From 1937 to 1950, Dr. Hall served on the faculty of M.I.T., first as an associate professor of electrical engineering, and later as founder and first director of the Dynamic Analysis and Control Laboratory. During the next seven years he was associated with the Bendix Corporation Research Laboratories, where he directed research and development activities. In January, 1958, he joined the Martin Company as director for research. He directed technical development of the Titan inter-continental ballistic missile at the firm's Denver division. He was named vice-president for engineering on Martin's general offices staff at Baltimore, and served in a key capacity with the company until his appointment to the Defense Department post this past summer.

Well-known construction engineer, **Sydney B. Karofsky** of Brookline, Mass., was elected to the board of directors of the Hebrew Home for the Aged, West Roxbury, Mass. Sid, an expert on color and interior design, participated in the construction of the \$6-million facility. . . . **William H. Healey** has been appointed manager-market development, Airco Chemical. Bill joined the company in 1959 and is a member of the American Chemical Society, Chemical Commercial Development Association, and the Chemical Market Research Association. . . . **Charles W. Dodge** changed jobs in April, 1963, and is now employed at Martin-Marietta Corporation, Denver, Colo., in charge of the Reliability Section of the Manufacturing Department. . . . **Dave Summerfield** writes that his son Steven, 20, is in the Air Force at a SAC base; son Gary, 18, is a freshman at the University of Tulsa. . . . **Robert J. Brauer** has been appointed supervisor in the labor relations division in the central employee relations department of American Oil Company, Chicago. Bob joined the company in 1938 as a chemical engineer in the Whiting, Ind., research laboratories. In 1946 he became a group leader in technical service at the Wood River, Ill., refinery, where he subsequently was light oils foreman, heavy oils assistant superintendent, and supervisor of heavy oils operations in the General Office manufacturing department, and in 1958 became staff assistant in labor relations in the central employee relations department. During nearly four years of army service in World War II he attained the rank of major, having served with infantry units in five Mediterranean area campaigns.

The Corona Heating Company, of which **William D. Ingle, Jr.** is president, has been appointed southern Indiana and western Kentucky representative of the commercial heating division of the Brown Fintube Company. Bill has devoted more than 15 years to heating equipment sales and has extensive experience in both layout and engineering of heating, cooling, humidification, dehumidification, ventilat-

ing, and air filtering systems. . . . **Dr. R. Vincent Kron**, LaGrange Park, Ill., has been named medical director for I.I.T. Research Institute. Vin had been medical director for Campbell Soup Company, Chicago, since 1958 before accepting the newly created I.I.T.R.I. position. Serving on the Chicago Heart Association's Industrial Medicine Committee, and the Medical Advisory Council of the American Association of Industrial Nurses, he is a member of the Medical Directors Club of Chicago, American Medical Association, Chicago Medical Society, and is a fellow of the Industrial Medical Association. Vin received his M.D. in 1943 from University of Rochester's School of Medicine and Dentistry, and continued graduate studies in radiobiology at Reed College, Portland, Ore., and occupational health at New York University's Post-Graduate School of Medicine. Following his internship at Johns Hopkins Hospital, Baltimore, in 1944, he served in the U.S. Navy during World War II as medical officer aboard destroyers stationed in the Pacific. After two years of private practice in East Gary, Ind., he was recalled for active duty in the Korean conflict in 1950. Upon his release to reserve duty in 1955 he was named civilian supervisor to the Industrial Dispensary at Puget Sound Naval Shipyard, Bremerton, Wash., a post he held until joining the Campbell Soup firm. His wife is the former Honor Stanton of Wilton, N.H. The Krons have three children, Lucy, 15; Peter, 13; and Priscilla, 11. . . . Received from **Walter H. Sherry**, an announcement of the formation of the firm of Sherry, Jones and Lysiak, Consulting Engineers, Buffalo, N.Y., members of the New York State Association of Consulting Engineers. Good luck, Walter.—**Robert H. Thorson**, Secretary, 506 Riverside Avenue, Medford, Mass.; Professor **S. Curtis Powell**, Assistant Secretary, Room 5-325, M.I.T., Cambridge, Mass.; **Jerome Salny**, Assistant Secretary, Egbert Hill, Morristown, N.J.

'39

George Beesley, X, Vice-president of Servend Food Services, headquartered in Waltham, Mass., has been hitting the lecture circuit. Last fall, for instance, he addressed a Kiwanis meeting in Chicopee, Mass., on the topic of "Modern Food Service Management." George's name will be appearing again in this column shortly, for he is our 25th Reunion chairman, heading up a busy committee that is making plans for an outstanding reunion in Cambridge. . . . **Wesley A. Kuhrt**, XVI, who has been chief of research activities at the Research Laboratories, United Aircraft, in East Hartford, Conn., since 1959, has been promoted to associate director of research. Research Laboratories, an autonomous unit of United Aircraft, is engaged in a wide range of basic and applied research in the realms of physics, chemistry, physical electronics, thermodynamics, and aerophysics. For an additional note on Wesley's extra-

curricular interests, he is very active in Gideon's International, and is a member of the Northwest Camp of Gideons. . . . **John A. Chartz**, XV, Vice-president and general manager of Dalmo Victor, in Belmont, Calif., has taken on an extra assignment recently by being elected to the board of directors of the Western Electronic Show and Convention for 1964. Wescon is a 1200-plus exhibitor show that runs August 25-28, in Los Angeles.

A '39er who obviously gets a great deal of enjoyment out of his chosen profession is **Robert Van Nice**, IV. He is research associate in Byzantine Studies at Harvard-sponsored Dumbarton Oaks, in Washington, D.C. For over 25 years, he has been studying the Turkish State Museum buildings of St. Sophia, a famous structure built in the sixth century by Emperor Justinian. An architectural and engineering feat, the St. Sophia church is a 15-story structure of marble and limestone which is so huge that it could easily accommodate all the other 29 Byzantine churches of Istanbul. Van Nice has been lecturing on St. Sophia, and his drawings (the first ever made of the structure) will be published this year by Dumbarton Oaks Press.—**Oswald Stewart**, Secretary, P. O. Box 1238, Moravian Station, Bethlehem 18, Pa.

'40

Onward and upward with the Class of '40. **Charles Wampler** has been elected vice-president and secretary of the American Telephone and Telegraph Company. He was formerly president of the Wisconsin Telephone Company. Charles entered the Bell System in the traffic department in 1929, and later became assistant vice-president of the Illinois Telephone Company, and then held a similar position at American Telephone and Telegraph. . . . **Harold Wallace** has been elected vice-president of Edgerton, Germeshausen & Grier, Inc., where he is in charge of the company's product operations. EG&G products include high speed oscilloscopes and related equipment, ceramic gas discharge tubes, flashtubes, power supplies and timing devices and oceanographic equipment. Harold has been with EG&G since 1956, and prior to that he was in charge of magnetron tube production and engineering for Sylvania Electric. Harold, his wife Selma and three daughters live in Medford, Mass. . . . **Jeoh Ming Pei**, who has constantly been in the news for his outstanding architectural designs, received the Medal of Honor of the New York Chapter of the American Institute of Architects. In presenting the award to Jeoh, the president of the New York Chapter said: "His colleagues are deeply impressed with the scope and quality of his work. It is distinguished by an ordered simplicity—imaginative, yet un-mannered."

The following words on **James H. Campbell** are quoted from the Holland Evening Sentinel: "The 40-story high, red and white painted stack at Consumers Power Company's James H. Campbell Plant on the Lake Michigan shore is the

first thing a traveler on the highway can see of this project. The stack is a colossus in itself, but it only hints at what's below beyond the dunes which mark the area. Behind the dunes: a power plant which can generate enough electricity in its first generating unit alone to take care of all the residential, business and industrial requirements of an average city of 300,000 people! It is a big plant, with a big job to do. It is named for a big man, with a big job to do. **James H. Campbell**, 53, who is the president of Consumers Power, is the operating boss of one of the nation's half-dozen largest utility operating companies. All of the business of Consumers Power Company, both its electric service to some 900,000 customers and its natural gas service to some 600,000 customers, is his business. He was born at Jackson, the son of a Consumers employee, October 18, 1910. He joined Consumers Power Company 23 years later following graduation from Purdue University with a degree in mechanical engineering. In 1939, young Campbell left Consumers on leave of absence when he received an Alfred P. Sloan Fellowship which took him to the Massachusetts Institute of Technology for a year of graduate study. Then, he went to Youngstown, Ohio, as a power sales engineer for the Ohio Edison Company.

"He was in the Army from February, 1942, to January, 1946, and went through the Italian campaign with the Fifth Army. On his discharge from active Army service with the rank of lieutenant colonel, he rejoined Consumers as assistant to the division manager of the Grand Rapids Division. He was made division manager July 1, 1947. Two years later he was called to Jackson as assistant to the president. In April, 1950, he was elected a vice-president of the company and in 1952 was elected to the company's board of directors. He was elected senior vice-president in April, 1956, and president in April, 1960. In May, 1962, Mr. Campbell was elected chairman of the board of the National Association of Electric Companies. He is also chairman of the national defense committee of the Edison Electric Institute and a member of the E.E.I. committee on atomic power. He is a member of the board of the Power Reactor Development Company, builder of the Enrico Fermi nuclear reactor near Monroe, Mich. He is also a director of the National Bank of Jackson." . . . **Adolph Sebell** has been appointed vice-president of the Syracuse Ornamental Company. Previously, he was plant manager.—**Alvin Gutttag**, Secretary, Cushman, Darby & Cushman, American Security Building, Washington 5, D.C., **Samuel A. Goldblith**, Assistant Secretary, Department of Food Technology, M.I.T., Cambridge, Mass.

'41

Our Class President, **Ed Marden** was in the news recently when the building and engineering firm, Edward R. Marden Corporation, of which he is president, moved its headquarters from Brookline

to a spanking new air-conditioned building at 280 Lincoln Street, Allston, Mass., which is conveniently adjacent to the entrance and exit ramps of the new Massachusetts Turnpike Extension to Boston. . . . Professor **Stanley Backer** presented a paper on "Fluid Spinning" at the morning session of the fall meeting of the Fiber Society at the Seaview Country Club, Absecon, N.J., at which session he also acted as chairman. . . . **Edward G. Sherburne, Jr.** is the author of an article entitled "Science on Television: A Challenge to Creativity" appearing in the *Journalism Quarterly*, Volume 40, Number 3 (Summer 1963). In this article the importance and breadth of science is vividly presented in Ed's definition of science as follows: "Science is not one thing in terms of our present society—it is many. Our lives are permeated economically, socially and intellectually with the current events and accumulating effects of a scientific revolution. Science is not a subject, but the warp and woof and fabric of our 20th century life. It is the subject matter out of which not only our houses and cars and rockets are woven, but the materials of which our dreams and poetry of today and tomorrow will be made. It is the subject of our most dramatic conflicts, and will increasingly be so. It is not a topic which is relegated to teaching and instruction. It is a part of life. It is made up of men who practice it, highly trained specialists, thinkers, theoreticians, technicians, and also nextdoor neighbors and parents. It is made up of people who work in laboratories, in forests, in oceans, in space, and in offices and classrooms. It is made up of those who make life and death decisions, of those who shuffle papers. It is made of measurement and accuracy. It is also made of estimate, guess and imagination. Science is the sum of past knowledge which has been discovered plus today's small increments of knowledge and the occasional big breakthroughs. It includes not only the physics of making a bomb, but also the biology and chemistry of how radiation interacts with living creatures. It is not only the dramatic heart operation on the congenitally malformed infant, but also the analysis of the basic biochemical mistake that made the child a victim in the first place. Science in its broadest terms is human activity, and put in the language of television, its variety of formats is endless. It can be dramatized, criticized, kidded, laughed at, discussed, debated, observed in action, elaborated upon, lectured about, related to current problems, and reflected in the lives and thoughts of those on the video screen." Ed is director of Studies on the Public Understanding of Science for the American Association for the Advancement of Science. Before joining the A.A.A.S. in 1961, he worked in educational television on both the East and West Coasts, including Boston's own educational Channel 2.

Arthur J. Weinberger is the author of an article entitled "Improving Research and Development's Batting Average" appearing in the October 28, 1963, issue of "Chemical Engineering." The article deals with economic evaluation techniques to

show which promising research projects should be expedited, and flash caution signals for those that look less attractive. The judicious use of these methods is stressed as being able to result in important contributions to corporate profits. Arthur is a senior chemical engineer in the Central Research Division of American Cyanamid Company at Stamford, Conn. He has specialized in technical and economic evaluation of research and development projects, and has also handled surveys of potential research topics. He has been active in the A.I.Ch.E. as a founder, and chairman of the Fairfield County section, and is currently a candidate for director of A.I.Ch.E. . . . **Stanley B. Zdonik**, of Arlington, Mass., has been appointed consulting engineer in the New Business Department of Stone & Webster Engineering Corporation, Boston. Stan has served as chief process engineer since 1957 and was senior process engineer for E. B. Badger and Sons Company at the time of its merger in 1951 with Stone & Webster Engineering Corporation. Previously he was with Sharpe & Dohme, Inc., and on the faculty of M.I.T. He is a registered professional engineer in Massachusetts and a member of the American Institute of Chemical Engineers and Sigma Xi. . . . **William F. Orr** has been appointed marketing research manager for the Film Operations of Olin Mathieson Chemical Corporation. Bill was previously assistant to the production manager for films. He joined Olin in 1948 as a chemical engineer in the film section of the research and development department, East Alton, Ill. He subsequently served in various capacities in film production in Pisgah Forest, N.C., where the first of two Olin cellophane plants was built. He is a member of Alpha Chi Sigma, honorary chemical fraternity, the American Marketing Association and the Society for the Advancement of Management.

Norman C. Michels, who has been vice-president, facility planning and appropriations, was appointed vice-president, long range facility planning, a newly created post of the United States Steel Corporation. In this new post it is his responsibility to determine how novel technologies will fit into an entire plant or, more accurately, what kind of plant they will require. In a recent interview he said, "I am most concerned about the obsolescence of open hearths, Bessemer and Duplex processes," noting that these are now overshadowed by the basic oxygen furnace. "Primary rolling mills will also become obsolete if continuous casting proves practical and economical," Norman stated. He feels that the major problem facing iron and steel engineers is keeping up with all this technological progress. This includes raw materials improvements and production processes, obsolescence and deterioration, and the resultant requirements by the industry for capital investment in the next decade. He was born in Spokane, Wash., and received his B.S. in electrical engineering from Purdue in 1936. He became a sales engineer for the former Crocker Wheeler Electric Manufacturing Company, Chicago, and currently he studied commerce at Loyola

University. In 1940 he left Crocker Wheeler to take a year of graduate work in business administration at M.I.T. which he completed in 1941. Upon returning to industry, he became a special engineer at the former Carnegie Illinois Steel Corporation (as the operating subsidiary of the U.S. Steel was then known) in Pittsburgh in 1941. The following year he transferred to Gary, Ind., where he worked as an expeditor, then became project engineer in 1944. In 1947 he left U.S. Steel to work for Laclede Christy Clay Products Company, St. Louis, where he became manager of operations. In 1950 he returned to Pittsburgh as a planning engineer for U.S. Steel. In 1952 he became chief engineer, project development. In 1954 he was transferred to Birmingham where he was appointed assistant vice-president, engineering, for U.S. Steel's Tennessee Coal & Iron division. He became vice-president, engineering of T.C.I. in 1955 and returned to Pittsburgh in 1961 as vice-president, facility planning and appropriations of the parent firm.

Dr. Richard B. Stambaugh has been appointed manager of research services at Goodyear in Akron, Ohio. He was formerly superintendent of the development laboratory of Goodyear Atomic Corporation, Portsmouth. . . . **Dr. Alfred H. Bowker** is in the news again as chancellor of the City University of New York, which is comprised of four senior and three community institutions entailing a registration of 109,000 students. They are City College, Queens College, Brooklyn College, Hunter College, Staten Island Community College, Bronx Community College, and Queensborough Community College. He was formerly dean of the graduate division at Stanford where he was credited with raising the statistics department of that institution to a top-ranking place in this country's colleges.—**Walter J. Kreske**, Secretary, 53 State Street, Boston 9, Mass.; **Henry Avery**, Assistant Secretary, 169 Mohawk Drive, Pittsburgh, 28, Pa.; **Everett R. Ackerson**, Assistant Secretary, 16 Vernon Street, South Braintree 85, Mass.

'42

Not much news this month! First, **Jacob (Jack) Kline** has been appointed professor of electrical engineering at Iowa State University. Many of his friends will remember that he has been associate professor at the University of Rhode Island since 1952. He received his Ph.D. degree from Iowa State in 1962 in the biomedical electronics program. . . . **Bill Pease** has been appointed director of special projects for Raytheon Company's Space and Information Systems Division. Bill has certainly had a distinguished career. Before joining Raytheon he was president of Aracon Laboratories, Concord, Mass. Previously he served as program manager of the Air Force's SAINT program for RCA; president of Feedback Controls, Inc.; vice-president of engineering and general manager, Electronics Division, Ultrasonic Corporation; and

associate professor of Electrical Engineering and director of Servomechanisms Laboratory, M.I.T.

Finally, I received a reply from **Ed Thode**, whom I wrote about last month, I quote in part from his letter: "Since September 1, I have been engaged in new duties as professor and head, Department of Chemical Engineering, at New Mexico State University. Chemical Engineering has been in the program at N.M.S.U. for 38 years, and has contributed some prominent engineers to the national scene. Probably the best known right now is Charley Johnson, quarterback of the St. Louis Cards, and graduate student at Washington University. Anyway, we have many problems because of the recent rapid expansion of the University (4260 students, up 60 per cent in five years), and I am not finding life dull. The family is well settled by now, and, contrary to some negative predictions by the teen-age member when the move was decided upon, are finding they all enjoy the country, the climate and the community. True, it is far from relatives and old friends. But, if we want to see snow, we can drive a few miles and see it; other wise, my! that sun feels good to my middle-aged bones!"—**Jack Sheetz**, Secretary, Room 3-344, M.I.T., Cambridge 39.

'43

I received a fine letter from **Dick Jouanet**: "Thank you for sending me the very fine 20th Reunion Handbook of the Class of '43. Doris and I had hoped to attend this 20th Reunion; however, just at that time I was in the process of being transferred from Aurora to Washington, D.C., and in the process of picking up the loose ends of a new job here in Washington. For the record I am now a 50-50 Washington representative and district sales manager for Barber-Greene Company. We are in the material handling field of construction equipment for contractors. Our main lines consist of asphalt mixing plants, asphalt paving machines, conveying equipment, ditching machines and truck loading equipment. I moved to Aurora, Ill., with Barber-Greene Company in 1947, after getting out of the Navy. After spending approximately 16 years in Aurora, we are happy to be back in the East Coast area. Doris Anderson and I were married in Aurora in 1948 and now have four children. We all have survived the uprooting, although Peter, 14, Patricia, 12, Thomas, 10 and Bruce, 8, are split between three schools in Montgomery County, which makes a rough deal as far as P.T.A. is concerned."

John H. Lutz, who received his doctorate with our class in chemical engineering, was elected vice-president, finance and administration, of Scientific Design Company, Inc., international designer and builder of chemical plants, with offices at Two Park Avenue, New York. Dr. Lutz, his wife Lillian and their children, Kurt, 17 and Karen, 14, reside at 331 Sunset Boulevard, Wyckoff, N.J. . . . Change of address notices indicate that **Loring F. (Hap) Hosley Jr.** moved from

Trenton to 15 Farnsworth Avenue, Bordentown, N.J.; **Charlie Swet** to R.F.D. 4, Mt. Airy, Md.; and **Don Hoyt** to 89 Country Club Place, Southbridge, Mass.—**Richard M. Feingold**, Secretary, 10 North Main Street, West Hartford, Conn.

'44

In line with plans for the reunion in June, **Scott Carpenter, Jr., X**, has advised that the following people are working at a very fast pace to make this an enjoyable time. **Norm Sebell, II**, and **Bob Breck, XV**, are working with the hotel on the banquet. **Bob Peck, XV**, is working on publicity, and I am also on that committee. **Mal Kispert, XVI**, is treasurer of the reunion. **Jack Frailey, XVI**, is handling favours, badges and signs! **Bert Bromfield, II**, is organizing sports and **John Hull, XVI**, is to organize the official class meeting. I have contacted several other members of the class and they are making a special effort to be in Lenox this June. Remember that the reunion is the weekend of June 13 and 14 in Lenox, Mass. at the Curtis Hotel. . . . A note from Food Engineering indicates that Gerber Products company, Fremont, Mich., has promoted **Ray Frodey, XX**, as director of new products where he will be responsible for new product planning and co-ordination. . . . The 'Journal Of Commerce' announces **Richard J. McGarry, XB**, has been elected vice-president of Stone and Webster Engineering Corporation of New York City. He has been in sales with Stone and Webster since 1955. Dick and Ann McGarry and their four children live in Darien, Conn. . . . The Cabot House organization recently carried a very complete story on Scott Carpenter, X. Scotty, in addition to being sales manager of the White Pigments Division and the Oxides Division, has many outside interests such as sailing, piano playing, dramatics and refinishing furniture. When not engaged in sailing, the Carpenters enjoy skiing and during the winter Scott was South Shore Chairman of the M.I.T. Second Century Fund. . . . Because of some extra travel I have been unable to get more information for the notes; any volunteered information will be much appreciated.—**Paul M. Heilman**, Secretary, 30 Ellery Lane, Westport, Conn.

'45

An early Christmas card from **Nick Mumford** reports that **Tom** and **Jimmy Stephenson** are now living at 1400 Oriole Drive, Evansville, Ind. Tom is technical manager of ALCOA's new plant in Waricks, Ind. Nick indicates that technical manager and plant engineer are synonymous. . . . As forecast in November, **Julian** and **Lois Busby** are now Texans after 18 years in Oklahoma; I trust we will have details on this move next month. . . . After many years with George A. Fuller Company in New York, **Tom Hood** pulled up stakes to become a

director and vice-president of the Vermont Marble Company in Proctor, Vt. I suspect that Tom and Marion have already forgotten their old suburban way of life! . . . **Bert Bossler**, formerly a section manager for the Avionics Division of Bell Aerosystems Company in Tonawanda, N.Y., has been named director of Spacecraft Systems for Raytheon Company's Space and Information Systems Division. Anyone for a trip to the moon! **Jim Cochran**, Director of Engineering and Development, Power Systems Division of Atomics International, conducted a seminar discussion on his company at the Institute in mid-November. . . . **Nelson Chang** has been a teaching fellow at N.Y.U. in electrical engineering since 1960. After Tech, Nelson worked as an electrical engineer for Ming Sing Industrial Company in Quebec until 1951 when he joined Kuljian Corporation in Philadelphia. In 1956 he joined General Electric, Pittsfield, as a development engineer.

On the lighter side, **Chick Street** has been re-elected president of the Narragansett Bay Yachting Association. My Rhode Island spies report that within the year Ann, the older Street daughter, will be able to out-race and out-point the old man. . . . Still on the lighter side, I want to thank **Vince Butler** for his friendly call on Friday, November 15. As my wife keeps saying it isn't the hour but the thought that counts. We enjoyed your call Vince even if it was 3:30 A.M. Let me know when you come East for Naval duty. . . . **Ray Pelley** and his bride spent the weekend of September 28 in Trenton, N.J., with the **Red Harringtons** and **Okie O'Connells**. We—the kids and I—enjoyed visiting with them at West Point that Saturday before the Army-Cincinnati game.

Class Agents **Bill McKay** and **Dave Flood** have asked me to thank you for your support to the 1963 Alumni Fund; as most of you know, the Class of '45 finished at the top of the heap for those classes graduating in the 40's. Let's keep our reputation in '64! Speaking of the Alumni Fund, Doug Haven reports the following '45ers will be area chairmen in the regional program: **Chris Boland**, Greenwich, Conn.; **Jim Levitan**, Stamford, Conn.; **Sieg Penner**, Wichita, Kansas; **Jack Atwood**, Summit, N.J.; **Walt Borden**, Westfield, N.J.; **Joe Neschleba**, Binghamton, N.Y.; **Dave Cohen**, Glen Cove, N.Y.; **Pete Schwab**, Plainview, N.Y.; **Ross Compton**, Hamilton, Ohio. . . . You can expect to hear from these classmates in '64; so lend a hand. The Class of '45 now has four Alumni Council representatives as follows: **Bob Maglathlin** for the class, and **Dave Flood**, **Bill Humphries** and **Dave Trageser** as club representatives from Scranton, Pittsburgh and Columbus respectively; relax, all three still live in greater Boston! **Dunc Luce** continues as an Alumni representative on the Mathematics Department Visiting Committee. M.I.T. Club Officers are: **Bill MacKenzie**, Vice-President, Bethlehem; **Clint Springer**, President, Fairfield County. . . . The following classmates are Educational Counselors: **Julian Davidson**, Little Rock; **Vince Butler**, San Francisco; **Dick Martin**,

Washington; **Dave Flood**, Natick; **Al Oxenham**, Newark; **Warren Miller**, Buffalo; **Bob Wilson**, Binghamton; **Bob Gardner**, Cedar City, Utah; **Kirk Drumheller**, Richland, Wash.; **Bob Hildebrand**, Seattle; and **Curt Beck**, Amarillo, Texas. Did I leave anyone out?—**C. H. Springer**, Secretary, Firemen's Mutual Insurance Company, 420 Lexington Avenue, New York, N. Y.

'46

Kenneth N. Davis, Jr., formerly controller, has been elected treasurer of the International Business Machines Corporation. Ken joined IBM in 1949 as a salesman in San Francisco. In 1953 he was named branch manager in Bakersfield, Calif. The following year he was appointed manager of methods at corporate headquarters. He was advanced to administrative assistant in the office of the executive vice-president in 1956. Subsequently he served as controller of the former Special Engineering Products Division and assistant general manager of the Advanced Systems Development Division. Prior to his election as IBM controller, he was controller for the Federal Systems Division. Ken, hausfrau and three children live on Horseshoe Hill in Pound Ridge, N.Y. . . . **Allan L. Bralove** has recently been named executive vice-president of Documentation Inc., a Bethesda, Md., information technology firm. . . . **Edward J. Fradkin**, M.S. Ch.E., from M.I.T., has recently been appointed director, Project Engineering, of Scientific Design Company, Inc., New York.

We have received a few address changes of interest. Lieutenant Colonel **Marshall Waller** now lives at 10315 Lloyd Road, Potomac, Md. **Marshall A. Ricker** is at Fullerton Union High School, Fullerton, Calif. **David R. Longmire** now lives at 38 Kent Hills Lane, Wilton, Conn. And **David F. Moyer**, after a very short time in New England, now lives at 6624 Joallen Drive, Falls Church, Va. I'd be interested in hearing of your new activities, Dave. . . . That is the total news we have received since writing the last issue. Although we can't possibly improve on the quality, let's hope the quantity improves next month.—**John A. Maynard**, Secretary, 25 Pheasant Lane, St. Paul, Minn.

'48

This is early December, and as yet no report has reached your secretary concerning the social evening spent at the M.I.T. Faculty Club by '48 men and wives on November 19. The secretary found it impossible to get off the reservation—that evening. We sincerely hope that it was a successful and enjoyable evening for all. . . . A letter from Halcon International, Inc., informs us that one **Peter H. Spitz** has been appointed assistant vice-president, assistant to the president of that firm. Pete resides with his wife and three children at 31 Birch-

wood Lane, Hartsdale, N.Y. . . . **James J. Kotlin**, senior project engineer at Electro-Motive Division, General Motors, in La Grange, Ill., is one of the inventors of a cylinder head for an internal combustion engine, according to a report in the 'General Motors Engineering Journal' for the third quarter of 1963. . . . A Kaman Aircraft Corporation release announced the formation of a new division, Kaman AviDyne, by acquisition of the assets of AviDyne Research, Inc., of Burlington, Mass., of which **Dr. Norman P. Hobbs** is president. Under the new setup Dr. Hobbs became general manager as well. Dr. Hobbs received his undergraduate degree and his Sc.D. in aeronautical engineering from Tech in 1948 and 1956, respectively. Before joining AviDyne in 1958, he was a group leader at M.I.T.'s aeroelastic and structures research laboratory, where he developed analytic methods for determining response to blast loads and destruction of enemy aircraft by atomic weapons. He also conducted research on the flutter representation of low aspect ratio and delta wings. He served with the United States Air Force at Wright Field from 1952 to 1953 as a project engineer, monitoring research on atomic weapons effects. Before his military service he had been a research engineer at M.I.T., developing methods of gust analysis, and was a consultant to the Atomic Energy Commission test programs.

Peter J. DeGeorge has been promoted to assistant manager of the Development Engineering Laboratory at IBM, Lexington, Ky. He has been with IBM since 1950 when he joined the Product Engineering staff at Endicott. In 1951 he was transferred to the military products engineering group in the Vestal Laboratory. He holds patents on a navigation system and an analogue-digital computer. In 1953 he returned to Endicott and in 1955 the well-traveled Mr. DeGeorge transferred to Poughkeepsie to work on the development of the 608 transistor calculator. In 1956 he transferred to the ET Development Engineering Group and was manager of the 32 program. Most recently he was area manager for electronic development, responsible for the IBM 6400 magnetic ledger accounting machine and dictating development. In his new capacity he will be responsible for all development in the laboratory related to electronic machines. Mr. DeGeorge was one of five ET engineers at Lexington who recently received IBM Outstanding Invention Awards of \$1,000 each for the results of their work on the 6400. . . . The American Dyestuff Reporter carried an article entitled "Continuous Dynamic Yarn Modulus Measurements Directed Toward Increased Dye Uniformity" by two authors, one of whom was **Henry M. Morgan**. After receiving his B.S. in physics, Henry joined Fabric Research Laboratories, Inc., received his M.S. in textile technology in 1955, was assistant professor of mechanical engineering at M.I.T. from 1955 to 1958, returned to FRL, Inc., as assistant director, obtained in 1960 a Sc.D. in fibrous high polymers from Tech, and in 1961 was appointed manager of the Industrial Division of KLH Research

and Development Corporation, of which he is now vice-president. He is the author of numerous technical papers. . . . **Herbert S. Kindler** has become the director of Society Operations of the Instrument Society of America with responsibility for the Society's technical, educational, and headquarters administration functions. Since 1956, Herb has served as director of technical and educational operations and assistant executive director. He is a holder of patents in instrumentation and author of a book, "Organizing the Technical Conference," published by Reinhold Publishing Company. . . . **P. Gene Smith** has been appointed director of the Radiation Systems Laboratory, a new division of the Research Triangle Institute, Durham, N.C., according to an account in the Proceedings of the I.E.E.E. in September. He will have the responsibility for building staff and programs in radar, communications, guidance, and control.

Dr. Edward L. Brady has been appointed chief of the office of the National Standard Reference Data Program at the National Bureau of Standards. He will be responsible for the direction of the National Standard Reference Data System which was established at the bureau in June, 1963. Dr. Brady, who has specialized in physical chemistry and radiochemistry, received his Ph.D. in physical chemistry at Tech and has authored many publications. . . . Stars signifying promotion to brigadier general rank now reside on the shoulders of **Charles W. Eifler, Jr.**, deputy commander for Land Combat Systems at the U.S. Army Missile Command, Redstone Arsenal, Ala. General Eifler received his master's degree in electrical engineering from Tech in 1948 and has responsibilities extending over the Pershing, Sergeant, Lance, Lacrosse, Redstone, Honest John, and Little John missiles and anti-tank aircraft weapons. Among other achievements he can list the following decorations: Bronze Star Medal, E.A.M.E. Service Medal with three battle stars (Rhineland, Ardennes, Central Europe), World War II Victory Medal, American Defense Medal, American Campaign Medal, German Occupation Medal, Armed Forces Reserve Medal, and the Glider Badge. . . . **James G. McCurdy**, President of the Puget Sound Bridge and Dry Dock Company, has been elected to the board of the Pacific National Bank of Seattle. . . . **George Biernson** is the author of an article entitled "Spectral Scanning as a Mechanism of Color Vision" in the July issue of I.E.E.E. Transactions on Military Electronics. After leaving M.I.T. George was an instructor at the University of Maine for one year, performed research and development in feedback controls at the M.I.T. Servomechanisms Laboratory, and joined the Applied Research Laboratory of Sylvania in Waltham in 1956, where he is now a senior engineering specialist. He recently designed the controls for a super-accurate 60-foot parabolic antenna for the ADVENT satellite communications system and is now engaged in research on color vision. . . . For the current academic year **Bob Mott** is president of the Association of Teachers of Mathematics

in Maine and vice-president of the Association of Teachers of Mathematics in New England. . . . Your secretary once again finds himself in the peculiar position of wishing all of you a very Merry Christmas and a Happy New Year while realizing that you won't receive his greetings until the February issue of *The Review* is in your hands.—**Robert R. Mott**, Secretary, Box 113, Hebron, Maine; **John T. Reid**, Assistant Secretary, 80 Renshaw Avenue, E. Orange, N.J.; **Richard V. Baum**, Assistant Secretary, 1718 E. Rancho Drive, Phoenix, Ariz.

'49

We start off this month with a list of the people who were already planning (as of December 6) to attend our 15th Reunion next June. Heading up the list are nine members of the reunion committee who will naturally be there. However, eight of them have yet to send in their cards and class dues according to my reliable informant: Joseph Lynch, Ed Kerwin, Walter Row, Kemon Taschioglou, George McQueen, Larry Holt, Fletcher Eaton, Dick Lang, and Harry Lambe. Next, we have 35 names of those who think they will be there, and eight more who hope to make it: Emmert M. Lowry, Jr., John P. Horton, Joseph P. Day, A. Stuart Powell, Jr., Joseph Schneider, C. W. Holzwarth, Thomas L. Hilton, Vernon P. Turnburke, Jr., Jan B. Peyrot, Eliot K. Buckingham, J. Thomas Toohy, Edward H. Somma, James K. Berman, Stanley V. Margolin, Ray E. Larson, Malcolm H. Kurth, Harold A. B. McInnes, Robert S. Walton, Donal L. Botway, Robert Talambiras, Robert O. Bigelow, Frank Darcy, Peter J. Cambourelis, John C. Miller, Frank T. Hulswit, Jabez S. Harford, Robert D. Brown, Robert J. Lannamann, Demetre P. Ligor, Thomas Morarian, Jack Cook, Ira Dyer, Bruce Campbell, Kenneth W. McGrath, Neil C. Morrison, Aldo C. J. DiMaccio, Robert S. Griggs, Donald S. Romano, Ron Greene, Thomas E. Weil, M. H. Campbell, William R. Kincaid. Have you sent in your reply card yet? How many people on the list already would you like to renew acquaintances with? Make your plans now; and let us know about them, please.

Elis A. Guditz has been at the M.I.T. Lincoln Laboratory for the last 10 years where he has specialized in the development of packaging techniques for high-speed digital computers. Since his specialties have included magnetic-core memory assembly methods, three-dimensional printing wiring, generation of precision art work, and chemically deposited electrical connections, it is perhaps no surprise to learn that he has written a paper with the intriguing title "Threaded Plated-Through Holes." . . . Another biographical note states that **Jack McKelvie** is now working in the field of numerical control systems for machine tools, and also implies that he is working with Bendix Industrial Controls Division. . . . Dr. **William Haddon, Jr.**, has been appointed acting assistant commissioner, Public Health Research, Development and Eval-

uation, New York State Department of Health. In addition, the National Safety Council has awarded him one of the two 1963 Metropolitan Life Awards for Accident Research. The Award of Merit and \$500 went to him for his recently published study of skiing injuries, work which was jointly supported by the New York State Department of Health and the Division of Accident Prevention, U.S. Public Health Service.

More reunion notes come via your assistant secretary as follows. . . . As those of you who attended our 10th Reunion will remember, the atmosphere was supposed to recreate the gold rush days of 1849 and we dressed and acted like '49ers to the best of our collective abilities. One man dressed and acted so darned authentic, however, that nobody recognized him. He had a genuine six-month growth of whiskers and his clothing was prospector type and looked to be over a hundred years old. He turned out to be **Bob Walton**, and when the gang finally caught on to who he was, he got a thunderous hand for having the most class spirit. With the foregoing in mind, you will appreciate the note which Bob wrote on a Christmas card recently: "Dear Fletch, Never fear, I have the big plan of being in West Harwich By-The-Sea come next year. I will be there with bells on. I have a reputation to uphold, so I would like to be there with beard on also. I have a problem, however. As a '49er I had a very reasonable excuse for having a beard, but I'm not too sure of having an excuse for wearing one at a political convention. You help me think of a good reason that I can give to people out here while I'm growing it and I'll be forever grateful. I can always say I'm just growing it for the helluvit but that's not always acceptable. I'll be waiting with bated breath. Regards, Bob."

Russ Cox suggests that Bob can come as an Arizona prospector and Goldbeaver booster. **Stan Margolin** urges Bob to come as Abe Linkbeaver. Any other suggestions should be sent direct to Robert S. Walton, Box 281, Monterey, Calif. . . . **Jim Maslon** writes from Mankato, Minn.:

"I would like to make reservations for myself, my wife and our four children if possible." Jim, it sure is possible and we will have the red carpet rolled out for you when you arrive. You should have received the necessary forms long since by the time you read this. . . . Stan Margolin bows to nobody when it comes to getting around over the face of this globe. You just never know where he is going to pop up next. Bangkok, Paris, Buenos Aires, Hong Kong, you name it. The other day (December 3 and 4), Stan just happened to be in Houston and bumped into **Ken Pettengill**. Ken is manager of process research for Emory Industries in Cincinnati, Ohio. Both were attending a meeting of the American Institute of Chemical Engineers. . . . Another man who gets around is Doug Haven, '52, of the Alumni Office. Doug recently saw the following classmates: **Ronnie Green** in San Francisco; **Milt Bevington** in Atlanta; **Bob Nesbit** in Miami; **Adrain E. Johnson** in Westport, Conn.; **Harrison Thibault** in Hopedale, Mass.; **Earl Eames** in Weston, Mass.; **Ed Mueller** in Fairlawn, N.J.; **Tom**

Weil in Shaker Heights, Ohio; and **Bill Mitchell** in Toledo, Ohio. All were working for the Alumni Fund in their areas.—**Frank T. Hulswit**, Secretary, A. D. Little, Ltd., 197, Knightsbridge, London S.W. 7, England; **Fletcher Eaton**, Assistant Secretary, 83 Herrick Road, Newton Centre 59, Mass.

'50

I have been hibernating for the last six months, and am only now beginning to come out from underneath my work schedule. So I can't blame you too much if you have not written to me about your experiences in 1963 and your plans for 1964. But I certainly will be waiting to hear from you, from now on. In the meanwhile, I am filling in with some old and new clippings that I have about the great Class of '50. . . . **Richard A. Gnecco**, now living at 77 Longhill Street, in Springfield, Mass., was promoted last year to be technical service supervisor of Lustrex-Lustron at Monsanto Chemical Company. Dick was a Course X man and a member of Kappa Kappa Sigma. On leaving Tech, he worked for Boston Woven Hose and Rubber Company. In 1954, Dick joined Monsanto as a technical service representative, and has been in the technical service field since then. He is married and has one youngster, at last count. . . . **Edward B. Mikrut** of Perth Amboy was married in Dunellen, N.J., last year, and Ed is teaching chemistry at Perth Amboy High School. . . . Dr. **Joseph R. Lane** recently co-authored an article in *Metals Progress* magazine entitled "Closing the Metal Gap." The article is based on a report on metallic materials for the Materials Advisory Board of the National Academy of Sciences-National Research Council. Dr. Lane received his doctorate at Tech and then joined the Naval Research Laboratory. From there he went to the Materials Advisory Board, where he is staff metallurgist.

Menelaos J. Moore is operations manager at Aerojet-General's Sacramento plants working on propulsion systems for air defense. He was previously manager of operations for Skybolt propulsion and has been active in the management of the Thor and Titan programs. . . . **Paul Pearce** is living in Metuchen, N.J., and is director of Engineering, Industrial Technology Division of Lockheed Electronics Company. Paul spent three years as a project engineer for Trans-Sonics, Inc. on instrumentation electronics and then joined Hughes Aircraft Company. . . . That's all for now. Please write as I need personal information as well as business data in order to compete for a Pulitzer prize award.—**Gabriel N. Stilian**, Secretary, 4 Biscayne Drive, Huntington, L.I., N.Y.

'52

The mailbag is low again this month. How about a line or two from some of you far flung classmates? . . . Congratula-

tions to Major **Daniel Lufkin** who has been promoted from captain. Dan is with the U.S. Embassy in Stockholm. And to Major **Daniel Lycan** who has also been promoted from captain and is down in Alexandria, Va. . . . **Herb** and **Melissa Eisenberg** inform me that their fifth child, **Martha** arrived last June, **Jim** and **Joan Stockard** are settled into their new home in Lexington; **Jim** is with AC Sparkplug Instrumentation of General Motors, Wakefield, Mass. . . . **Nathan Sivin** is with Harvard in the History of Science Department. . . . **Samuel J. Cullers** resigned from the Chicago Community Renewal Program to direct a renewal study in Toronto. Before Chicago he was city planning adviser to the government of Thailand, and deputy director of redevelopment in Hartford, Conn., where he supervised the nationally known Constitution Plaza redeveloped project. . . . **Edward Sullivan** has been promoted to the position of senior research chemist at Metal Hydrides, Inc., Research Laboratory in Beverly, Mass. Let us hear more about your work, Ed.

Carl H. Brubaker, Jr. is currently professor of chemistry at Michigan State University and has published articles on oxidation-reduction and exchange reactions, transition metal complexes of tetrazoles and alkoxides and mixed halide-alkoxide complexes. . . . **Paul A. Flinn** has been appointed associate professor of physics and metallurgical engineering at Carnegie Tech. Among he nearly 500 scientists and engineers from everywhere at the International Symposium on Space Telecommunications at National Bureau of Standards Boulder Colorado Laboratories was Dr. **John Ruze** from M.I.T. Lincoln Laboratories, who conducted the session on feeds and reflectors, discussing theoretical and practical aspects on antenna engineering. . . . Dr. **Albert D. Frost**, Professor of Electrical Engineering at the University of New Hampshire and director of the Antenna Systems Laboratory, which carries out research on novel antennas, has joined the professional staff of the Institute for Defense Analyses (IDA) in Washington, D.C., on a leave of absence from U.N.H. And with that, I will have to close. Let's sit down and write me a letter, and try to help fill the mailbox.—**Dana M. Ferguson**, Secretary, 242 Great Road, Acton, Mass.

'53

It is the beginning of a new year and we wish to extend all best wishes to the Class for 1964: Our fearless leader has returned to the homeland from a stint in Washington with greater insight into the workings of our government. **Marty Wohl**, I, is now at Harvard as a lecturer in the School of Public Administration, and also as director of transportation research in the Department of Economics. Marty spends most of his time at Harvard, when he can find a parking space, teaching and doing research in transportation systems engineering, consulting, and writing. He has just finished co-authoring a book entitled "Technology and

Urban Transportation" for the Rand Corporation and is working on two more. Further, Marty reports "one good wife, two boys, and a gleam in my eye . . . and one more Manhattan on-the-rocks will do the trick (for me, not my wife!)."

Betty Ann (Ferguson) Lehmann is keeping very busy taking care of Fred and their three children. Fred is now secretary of the Alumni Association, and many of us were delighted to see them both at the 10th Reunion last summer. . . . The man who would undoubtedly get the "award" for the most traveling is **Roland Johnson**, XVI, who is a pilot for Eastern Airlines. Don't forget to look at the name plate on your next trip! . . . **George Hegeman**, XV-B, is solving problems for well-heeled clients at Arthur D. Little, Inc. and has had occasion to travel extensively overseas. George is also generating some problems of his own along with his wife, Ruth; at latest count there are two. . . . **Dick Lindstrom**, X, is working at ADL also and specializing in product developments relating to plastics and paper. Dick and Carolyn boast a two-year-old daughter, Janice. . . . **Bob Wolfe**, I, is married to the former Judith L. Hirsh, Wellesley, '54, and is a vice-president of the Joseph E. Bennett Co., Inc., involved in building construction. . . . **Joe Urner**, XIV, is living in Belmont with his charming wife, Pat, and two children and making better missile systems at Raytheon. Joe, do you think you could arrange our 20th reunion on the moon?—**Norman R. Gardner**, Secretary, 100 Memorial Drive, Cambridge 42, Mass.

'54

With our 10th year as alumni drawing to a close, and our reunion only four months off, you should be making your plans now to join us all in Lenox, Mass., in June. We will be sharing the Curtis Hotel there with the Class of 1944, who have already challenged us to a ball game. You will be getting further information on the festivities through the mail as well as in future columns here. . . . **Jerry Cohen** sent us word that he has been an associate professor at Northwestern University since 1961. We reported his rank as assistant professor in the November column. Glad to be able to set the record straight, Jerry. . . . **Dean Jacoby** informs us that **Jack Preschlack** has spent a year in England on an assignment for McKinsey and Company, management consultants. . . . **Larry Holmes** is assistant professor of the history of science at Tech. . . . **John Blair** is associate professor of electrical engineering at M.I.T., where he is involved in the Energy Conversion Laboratory of the Research Laboratory of Electronics. John is also chairman of the Energy Conversion Division of the I.E.E.E.-P.T.G. on Electron Devices, according to one usually reliable but somewhat secretive source. I am sure that some of you know what I.E.E.E.-P.T.G. is. And on that wistful note, we retire until next month.—**Edwin G. Eigel, Jr.**, Secretary, 4945-A Sutherland Avenue, St. Louis, Mo.

'55

Donald R. Welsh has been appointed to the new position of Merchandising Coordinator—Renewal Sales for the Electronic Tube Division of Sylvania Electric Products, Inc. Don has been with Sylvania since August of 1956. . . . **Ron Howard** recently addressed the Boston Professional Technical Group on Reliability of the I.E.E.E. on the application of operations research to reliability and maintainability. Ron is associate professor of electrical engineering and industrial management at the Institute, and is the author of "Dynamic Programming and Markov Processes." . . . **Robert A. Sherman** has been named comptroller of Kodak Park Works of the Eastman Kodak Company. . . . Dr. **Robert S. Davis** and Dr. **Joseph L. Russell** have been named assistant vice-presidents of Halcon International, Inc., of New York City. . . . Dr. **Robert L. Coble** recently published a paper entitled "Hot-Pressing Alumina: Mechanisms of Material Transport" in the American Ceramic Society Bulletin. Bob was awarded the Pace Award in 1961 for professional achievement in ceramic engineering.

William M. Murray has been named supervisor of New Product Manufacture at the Carwin Company, North Haven, Conn. Bill was formerly with the Upjohn Company at Kalamazoo, Mich., the parent company to Carwin. . . . **Peter C. Tandy** had a paper published in the "IEEE Transactions on Instrumentation." Pete has been with the Air Force Cambridge Research Laboratories since 1958, performing research and instrumentation in ultra-high temperatures of extremely short duration. . . . **James E. Smith** recently had a paper published in "Materials Research & Standards." Jim is with the United Aircraft Corporation Research Laboratories, in East Hartford, Conn. . . . **Mel A. Barkan** has become engaged to Hope S. Diamond of New York City. Hope is a graduate of Syracuse University and is with the American Field Service in New York. The wedding date is set for February 15 with honeymoon plans for either Mexico or the Caribbean. Mel is a vice-president of the Beacon Construction Company in Boston and is presently searching for "just the right apartment" in the lower Beacon Street area. . . . See you again next month.—Co-secretaries: Mrs. **J. H. Venarde (Dell Lanier)** 2401 Brae Road, Ardentown, Wilmington, Del.; **L. Dennis Shapiro**, Aerospace Research, Inc., 130 Lincoln Street, Brighton 35, Mass.

'56

Paul Abrahams received his Sc.D. in mathematics from Tech in June, 1963. **Jay Ball**, who is with Bolt, Beranek & Newman in Cambridge, has been elected secretary-treasurer of the Professional Technical Group—Audio of the Boston Section of the I.E.E.E. . . . Dr. **Paul Berenson** is with AiResearch Manufactur-

ing Company in Los Angeles. He recently presented a paper entitled "A Photographic Study of the Mechanism of Forced Convection Vaporization" before the A.I.Ch.E. in San Juan, Puerto Rico. . . .

John Gignac is now working on the development of new color products at Polaroid. The Gignacs had their third child and second boy in January, 1963. . . .

Anthony Praznik is a supervisor in the Servo Analysis and Design branch of the Marine Equipment Department of Northrup-Nortronics in Needham, Mass. His group has been working on guidance and control of ships. In November the group gave a presentation before a dinner meeting of a branch of the A.I.E.E. . . . **Von Sowers** writes that after working for Cambridge Research, he joined Boeing in 1958. Von entered Harvard in 1961 and received his M.B.A. last June. He returned to Boeing in Seattle. Von and Jane have three children Tad, Paul and Elizabeth and live on Vashon Island in Puget Sound. Commuting is by ferry.

This month I would like to honor members of the class who are officers of the local alumni clubs for the current year; **Roger Borovoy**, Secretary-Treasurer, Northern California; **Billy Caskey**, President, New Mexico; **Marty Chetron**, Treasurer, Southern California; **Bill Grinker**, President, Western Suburban Boston; **Manuel Isava Carbonell**, Treasurer, Venezuela; **Louis Martel**, Vice-president, Schenectady; **Bernie Romberg**, Treasurer, Chicago; **T. Guy Spencer**, Secretary-Treasurer, Fort Worth. Some of the rest of you could contribute by making a resolution for the New Year to write your class secretary. . . . And to finish the report my wife and I wish to announce the arrival of a son, Bradford Bruce, on the otherwise tragic day of November 22, 1963.—**Bruce B. Bredehoff**, Secretary, 16 Millbrook Road, Westwood, Mass.

'57

Before reaching into the mailbag I would like to report that I have just received information that **Dave deVicq** has been awarded the Legion of Merit medal, an honor rarely bestowed in peacetime, for his outstanding service with the Navy in Antarctica. Dave's citation reads: 'For exceptionally meritorious conduct in the performing of outstanding service while serving as officer in charge of a special detail, Summer Support Activities, Constructions Battalions, Atlantic Fleet from 1 July, 1960, to 20 May, 1961, Lt. j.g. deVicq assumed duties of great responsibility in deploying with 60 men on a polar ice cap to begin construction of the Marie Byrd Station in the Antarctic. Working 72 hours without sleep, in temperatures 35 degrees below zero, he provided water, food and shelter for his men. At the same time, with only hand tools, he began assembly of a 38,000-pound Peter Snow Miller which he accomplished without machinery to repair damaged parts or power equipment to handle parts weighing up to 10 tons. The world's largest Janeway hut was then constructed by original field design

"HI, YA, POP!"



MY!! HOW YOU'VE GROWN!!

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when specially ordered materials failed to arrive. DeVicq's work resulted in Marie Byrd Station becoming available for limited operations less than six months from his landing on the site. His acts of service, superior leadership, administrative and technical skill were recognized nationally as an outstanding service to the Navy and the United States Government. His mindfulness of the welfare of his men, ingenuity under extreme conditions and meritorious acts were in keeping with the highest traditions of the United States Naval Service."

Dave Bloomfield wrote from Poughkeepsie: "After graduation I went on active duty in Germany as a signal detachment commander in Ulm for two years. I met my wife, Barbara, over there, and we were married after I returned to the states. 'Sie ist eine Berliner.' I started work in Cleveland with Clevite Corporation as an operations research analyst. However, after one and one-half years IBM made me a rather attractive offer to come to their Poughkeepsie plant. Starting with IBM as the plant master planner in 1961, I moved up to manager of the Systems Planning and Analysis Department, which is concerned principally with computer applications to production control systems. At present I am manager of the Poughkeepsie Data Systems and General Products Scheduling Area. My wife and I have become bridge fanatics and enter all sorts of tournaments in the Hudson Valley area. The only difficulties arise with my interpretations of her 'Berlin conventions.'". . . . **Paul Carr** wrote the following note: "My original tour of six months in the Army was extended for a year due to the Berlin crisis in 1961; my station was the Army Missile Command Calibration Center at Redstone Arsenal, Ala. I was married in 1960, and we have a daughter 15 months old. At present I am doing solid state physics research at the Air Force Cambridge Research Laboratory in Bedford."

The letter I received from **Ed Altounay** read as follows: "The degree of doctor of philosophy in civil engineering was awarded to me in September of 1963 by Stanford University. I pursued the Engineering Economic Planning Program, which is designed to provide engineers with the background in engineering economics and administration necessary for assuming management positions in government and industry. (I would like to see similar programs introduced at other universities.) At present I am involved in management planning with the State of California's Department of Water Resources at Sacramento. . . . **Mike Brenner** wrote: "After leaving Tech I spent six months in the Army at Fort Monmouth as a second lieutenant. (The resemblance to the military was vague.) I celebrated my discharge by marrying the former Elsa Claman. In September of 1958 I entered Johns Hopkins. After four and one-half years of work and toil I received my doctorate in engineering; my major was operations research. At present I am working on long range planning procedures for cable networks at the Bell Telephone Laboratories in Holmdel, N.J. We are living in New Brunswick, N.J. Our first

child, a girl, was born in January, 1962. **Les Gimpelson** is also living in this area and working at Bell Labs. We play squash together occasionally." . . . More letters will be published next month. In the meantime I would enjoy hearing from you. Also, if you are in Boston for a visit, be sure to call or stop by for a chat.—**Frederick L. Morefield**, Secretary, 1-A Acorn Street, Boston 8, Mass.

'58

In the December Review, we printed half of the results of the poll conducted for the 5th Reunion. For a review of the techniques used in the poll, refer to that issue; the results were tabulated from 365 returns. Not everyone answered each question, therefore answers on each subject do not always total 365. Returns came in between November, 1962, and May, 1963, so results are about a year old. . . . One hundred and forty-eight respondents indicated they had received degrees subsequent to graduation. In all, 15 additional bachelors degrees were received; 131 masters'; 14 doctorates; 2 L.B.'s; and 7 M.D.'s. Seventy-two of these degrees were received from M.I.T., and 96 were from other schools. . . . Forty-one people had received some sort of professional award, and 79 had had work published since graduation. . . . When asked about the old 'alma mater,' 162 said they would like to return to M.I.T. if they could take a year off from work; 23 had some question about it; most of the rest said no to the idea. Two hundred and thirty-nine respondents said they would like their son to go to M.I.T.; 35 had some question. Only 29 said they would like their daughter to attend M.I.T.; and 21 others had some question.

Recreations since graduation vary. Each alumnus was asked to name his three favorite recreations. One hundred and eight mentioned reading; 65, music, including playing an instrument and high fidelity equipment; 53, skiing; 52, golf; 50, swimming; 39, mountain climbing, camping or hiking; 38, sailing; 36, bowling; 27, cars; 26, theater; 48, cards, mostly bridge; and dozens of other activities. . . . Some read, some don't! Sixty-two respondents read two or fewer books last year; 64 read from three to five; 80 read 6 to 10; 72 read 11 to 25; 33 read 25 to 50; 13 read 50 to 100; and 7 read more than 100 books last year. . . . One hundred and eight attended 2 or fewer plays, concerts or ballets last year; 75 attended 3 to 5; 80 attended 6 to 10; 46 attended 11 to 20; 19 attended 21 to 30; and 6 attended more than 30. . . . Eighty-two respondents do not watch television at all. Thirty-nine watch 1 or 2 hours per week; 55 watch 3 to 5 hours; 70 watch 6 to 10 hours; 32 watch 11 to 15 hours, and 17 watch more than 15 hours.

One hundred and thirty-six respondents indicated they are Republicans; 79 are Democrats; 73 are Independents; 3 are Conservatives; 2 are Liberals, and 1 is a Liberal Socialist. Thirty-eight said they are politically active; and 237 said they voted in 1962. . . . One hundred and eighteen said they are actively af-

filiated with a religious organization. Almost all of the rest said they were not. . . . Fifty-seven said they give nothing to charity; 139 give one per cent or less, but not nothing; 41 give 2 percent; 67 give 3 to 5 per cent; 23 give more than 5 per cent. . . . Tech men travel! One hundred and ninety respondents had traveled outside of the United States. Canada leads the list of countries visited, with 98 visitors, followed by: France, 57; England, 51; Germany, 49; Mexico, 46; Switzerland, 42; Italy, 40; Holland, 27; Austria, 26; Belgium, 21; Spain, 20; Denmark, 16; Greece, 16; Bermuda, 16; Japan, 9. Seventy-four other countries were visited by eight or fewer classmates. These included Malaya, Andorra, Iceland, Israel, Russia, Cyprus, the Fiji Islands, New Zealand, and several others.

We asked some weird questions, got the following weird answers: 232 respondents had no pets; 51 have dogs; 37 have cats; 18 have birds; 10 have fish; 7 have turtles, and one each has a frog, a rabbit, a guinea pig, shrimp, and jumping beans; one kept his wife as a pet. . . . One hundred and ninety-five said they had lost no hair since graduation—all liars! Seventy lost 1 to 5 per cent; 28 lost 6 to 10 per cent; 12 lost 11 to 19 per cent; and a sad 25 lost more than 20 per cent. . . . Sixteen lost more than 5 per cent of their weight since graduation; 20 lost 1 to 5 per cent; 132 remained at the same weight; 58 gained 1 to 5 per cent; 69 gained 6 to 10 per cent; 15 gained 11 to 19 per cent; and 14 gained 20 per cent or more. . . . Seventy-one get less sleep now than they did at Tech; 98 get as much; and 159 get more now. In conclusion, let me say that I still have the returned questionnaires at hand. If some interested party with a vast data processing organization at his disposal would care to have them to run some correlations, he is welcome to them. Also I have 25 leftover copies of the tabulated results that were printed for the reunion. These offer more data than this article. I would be glad to send copies to the first 25 requesting them.—**Stephen Friedman**, Questionnaire Chairman, 122 Waverly Place, New York 11, N.Y.; **Cornelius Peterson**, Secretary, 4 Rambling Brook Road, Upper Saddle River, N.J.

'59

Only four months before our big reunion. I hope everyone is making plans to attend. Remember, groups of two to eight couples can reserve private cottages at CBI. Just contact the reunion committee, Room 52-561, 50 Memorial Drive, Cambridge 39, Mass. . . . I received a short note from **Neil Harper** recently. Neil finished his Ph.D. in civil engineering last June at the University of Illinois. He is now doing some postdoctoral research in shell mechanics in Hanover, Germany. In March, Neil and his wife, the former Anne Yost, will be moving to Delft, Holland for another six months in shell mechanics. . . . Unfortunately I haven't received any additional mail over the past month. Let's hear from everyone who has a good excuse for not attending the re-

union. (Not that any excuse is really sufficient!)—**Robert A. Muh**, Secretary, M-424 Arlington Towers, Arlington 9, Va.

'61

Once more, we dip into the mailbag, but now the postcards are getting low. This is the final batch from last spring's mailing. So we will certainly include another return card in **Ira's** spring letter to the class. Don't be shy; do your part! When you get your postcard, take five minutes and let me know what you have been doing. Ten per cent of the class actually returned cards to me last year; things can't be so tough for the other 90 per cent of you that you don't have time to fill out a postcard and drop it in the mail. Let me hear from you! . . .

Ray White left the Navy in June, 1963, after two years on the destroyer 'John Hood,' which operated during that time out of Newport, R.I., and New York City. Ray is now operating out of the School of International Affairs, Columbia University, where he is steaming after a master's degree. Full speed ahead, Ray. . . **Mitch Brodtkin**, at the time he wrote, was technical operations officer for the U.S. Army Chemical Corps Desert Test Activity at Yuma Test Station, Ariz. While on a trip to Aberdeen Proving Ground, he ran into **Mel Cornillaud**, who is permanently stationed there. . . **Don Straffin** writes: "After graduation in 1961, I worked a year and a half at State Mutual Life in Worcester, Mass., as an actuarial student. In October, 1962, I went on active duty with the U.S. Navy, reporting to O.C.S. in Newport, R.I. After four months I received a commission as ensign. At Christmas, 1962, Patricia Sullivan of Manchester, N.H., and I were engaged; we were married July 4 (Dependents Day). I am now on active duty and assigned to the Naval Reactors Division of the A.E.C. in Washington, D.C., as a junior engineer. **Larry Rojahn** is here also." . . . **Ken Kotovsky** is involved in research on vision at the University of Pittsburgh.

Bob Fisher really gets around! Right now he's at Syracuse, studying for a master's in design, but prior to that he and his wife True spent a year in Rome, where Bob studied architecture. The previous year was spent in Oslo, Norway, on a Fulbright grant, where he studied design. The Fishers have traveled extensively in Scandinavia, Great Britain, and Continental Europe. . . **Angelo Lamola** is at Caltech, expects a Ph.D. in chemistry in June of this year. He married Sandra Evemark of Glendale, Calif., on August 30, 1963; they are now living in Pasadena. . . **J. F. Buoncristiani** is a Ph.D. candidate, field unspecified, at Northwestern. . . **Dick Mezger** is here at M.I.T. in Course XV, working toward his M.S. He married Susan B. Loeb of Silver Spring, Md., on June 4, 1963. . . **Bill Shaw** sends best regards to all from the University of Washington, where he is doing doctoral work in theoretical physics. . . **David Wiley** is also going for a Ph.D. in physics; he is at Princeton. I don't believe I have mentioned before in this column

that he married Mary Puffer of Newark, N.J., on Nov. 24, 1962.

John Bennett is with I.B.M. in San Jose, Calif. . . **Mike Zimmerman** is working on new product development at DuPont's Wilmington plant. He spent the summer after graduation in Colombia, on an operations research project; following this he returned to the Columbia in New York, to get his M.B.A. . . **Terry Cummings** stayed on at M.I.T. for an M.S. in Course VI, then departed for California and the Inertial Guidance Department of the Space Technology Laboratories in Redondo Beach. He married Gale Goring of Lynnfield, Mass., on June 8, 1963. . . **Terry Wolfe** gained an M.B.A. from Harvard Business School in June 1963, now lives in Arlington, Mass. He is working in the Economic Factors Department of the MITRE Corporation. . . I heard from **Andrew Zeger** just before press time; he is at Brooklyn Polytech on a teaching fellowship, working toward a Ph.D. in mathematics. A son, Kenneth Alan, was born August 18. Thanks to Andrew. . . Class Treasurer **Jerry Grossman** was in town recently, and we had a pleasant chat. He is at the University of Pennsylvania Medical School, enjoying his work very much. . . And to bring you up to date on another class officer who hasn't had much exposure in this column, Vice-president **Pete Gray** is now living in Senior House, as a tutor. He has his master's, and is continuing to instruct in Course VI while going on for his doctorate. . . **Dave Ness** is back at M.I.T., again in Course XV, after two successful years in England as a Rhodes Scholar. Dave survived the rigors of English higher education (and English food) without outward signs of harm. . . An item here informs me that **David Schuster** received a "Best in Class" award for his photomicrographic exhibit at the 1963 ASM Metals/Materials Show in Cleveland. His pictures were taken in conjunction with his master's thesis work in materials and metallurgy at Cornell.

A final note concerns the Alumni Fund. You have received ample information from M.I.T., including **Grady Harris'** good letters, as to why you should give. I will just add here that our school needs and deserves our support, and point out further that givers get a year's subscription to this august journal. If you have not given this year and are going to, now is the time, because your subscription runs out with this issue. I may be fooling myself, but I like to think these columns help to keep the class together, and that they are read, so do send in enough to keep the magazine coming your way, if you haven't already.—**Joseph Harrington**, 3rd, Secretary, 1610 Westgate, Cambridge.

'62

Since I haven't received any mail from anybody, I can only make some guesses concerning your whereabouts from the address change notices I get from the Alumni Association. In order to alleviate this situation, I expect to send out questionnaires to everyone in the class in the

near future. . . **Clark W. White**, VIII, is in the physics department at Duke University. . . **Bojey Salmon**, I, President of the class, is a lieutenant at Fort Leonard Wood in Missouri. . . **Arthur Traub, Jr.**, XV, is at Officers Candidate School in Fort Sill, Okla. . . **Terry Kohler**, XV, is working at Vaillrath Company in Sheboygan, Wis. . . The new address for **Dave Korkosz**, VI, is in Ithaca, N.Y. Maybe he is at Cornell? . . . **Dick Pickett**, II, has moved to Granada Hills, Calif. . . **Gordon Gilbert**, VI, is at the M.I.T. Instrumentation Lab. . . **W. Earl Hall, Jr.**, II, is working for Bell Helicopter in Fort Worth, Texas. . . **Howie Plotkin**, XVIII, who is working for Dynamics American in Texas, called up a while ago. He was on his way back from Boeing in Seattle, where he attended a conference and also talked to **Will Taylor**, XVI, the class treasurer. . . That's about all I can improvise for now. Don't wait for the questionnaire. Send a card now.—**Gerald Katell**, Secretary, Stanford Business School, Palo Alto, Calif.

'63

You have all received a letter about the Class of '63 Technology Loan Fund. It is probably the most significant gift that we can give as a class at present. Since we are all just beginning financially (those still in grad school haven't begun at all yet), we can't give individual gifts that amount to much. But we can still start a significant loan fund with numerous small gifts. In thinking about this, even hastily, we should remember how many of us received scholarship or loan aid during our four year careers. If you received aid, you should be glad to contribute. If you never got a dime, you should be stricken with thanks for being so fortunate, and overcome with altruism at the thought of this opportunity to give to such a fine purpose. Anyway, it would be face-saving if the Loan Fund was more successful than the Room-for-the-Student-Union Fund which resulted in capital barely sufficient to buy and install a door, let alone a whole room. . . On the individual news scene there isn't much. Nobody has written me, so everything I know is hearsay and is presented as such. (Incidentally, my address was given with a slight error in the Loan Fund letter, it should be F-41 McCulloch, Boston 63, not 241.) **Frank Ansuini** is now with International Nickel's Research Lab in Bayonne, N.J. . . **Walter Ness** represented M.I.T. at meetings at Ahmadu-Bello University in Northern Nigeria last November. . . **James Kuzdrall** is now with Sanders Associates in Nashua, N.H. . . **Stuart Cooper** has become a Textile Research Institute fellow. He is studying at Princeton and doing research at the T.R.I. . . Again, if anyone has any news, even of absolutely minor importance, drop me a line at the address given above. If I don't hear from people soon, I'll start writing a novel in serial form for this column. And send money to the new Class of 1963 Loan Fund.—**Bob Johnson**, Secretary F-41 McCulloch, Boston 63, Mass.

On The Importance Of Your Gift To The Alumni Fund



"How can my small gift be of any importance? If the Alumni Fund wants to raise \$1 million, why not find one man with a million or even ten men with \$100,000 each? Wouldn't it be easier?"

Well, it's perfectly possible. It might, indeed, be easier. But, while the raising of funds is the reason for being of annual giving, it has other and very important objectives.

The strength of any great university lies primarily in its faculty, its facilities, and its alumni. If its alumni body is interested, well-informed, and participates actively in its affairs, the university is the stronger for it.

The alumnus who gives the Institute \$1 million is to be highly commended for his thoughtfulness and generosity. But when 20,000 Alumni give that same total, there are more far-reaching effects. By their actions, these men, who as a group know M.I.T. better than any other, have shown their faith in it and their willingness to play an active role in shaping its future. This evidence of confidence does not go unnoticed elsewhere. Foundations, corporations, and non-alumni are impressed by such evidence, and are the more willing to come to its support. An unknown poet put it this way:

Foundations give to Smithers U
And also to McWhorter.
But more to Smithers U because
Alumni do support her.

So, in the months ahead, when you are asked to contribute to the 1964 Alumni Fund, do keep this in mind. Of course, it is hoped that every alumnus will give thoughtful consideration to the size of his gift, that it will be commensurate with his capability and his other commitments. But be assured that every contribution is important, that it exerts an influence far greater than may appear.

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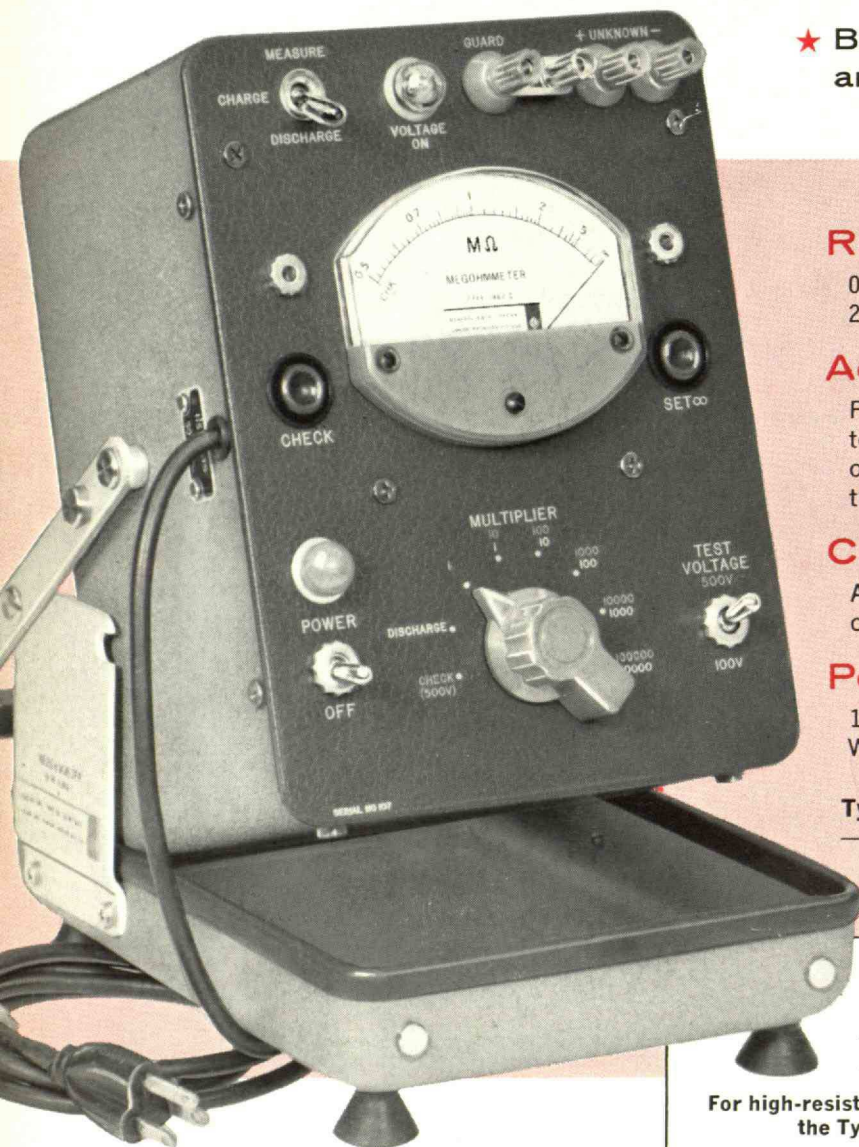
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